

ORIGINAL



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BEFORE THE ARIZONA CORPORATION COMMISSION

MARC SPITZER  
CHAIRMAN  
WILLIAM A. MUNDELL  
COMMISSIONER  
JEFF HATCH-MILLER  
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COMMISSIONER

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Arizona Corporation Commission

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IN THE MATTER OF QWEST  
CORPORATION'S FILING OF RENEWED  
PRICE REGULATION PLAN.

DOCKETNO. T-01051B-03-0454

IN THE MATTER OF THE  
INVESTIGATION OF THE COST  
OF TELECOMMUNICATIONS  
ACCESS.

DOCKET NO. T-00000D-00-0672

NOTICE OF FILING

The Residential Utility Consumer Office ("RUCO") hereby provides notice of filing the Direct Testimonies of Marylee Diaz Cortez (Redacted), William A. Rigsby and Dr. Ben Johnson (Redacted) in the above-referenced matter.

RESPECTFULLY SUBMITTED this 18th day of November, 2004.

*Scott S. Wakefield*  
\_\_\_\_\_  
Scott S. Wakefield  
Chief Counsel

1 AN ORIGINAL AND FIFTEEN COPIES  
2 of the foregoing filed this 18<sup>th</sup> day  
3 of November, 2004 with:

3 Docket Control  
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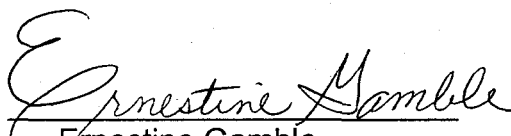
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By   
Ernestine Gamble  
Secretary to Scott Wakefield

IN THE MATTER OF QWEST CORPORATION'S  
FILING OF RENEWED PRICE REGULATION PLAN.

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF THE  
COST OF TELECOMMUNICATIONS ACCESS.

DOCKET NO. T-00000D-00-0672

DIRECT TESTIMONY

OF

DR. BEN JOHNSON

(Redacted)

On Behalf of  
The  
RESIDENTIAL UTILITY CONSUMER OFFICE

November 18, 2004



1 TESTIMONY

2 OF BEN JOHNSON, PH.D.

3 On Behalf of

4 THE STATE OF ARIZONA

5 RESIDENTIAL UTILITY CONSUMER OFFICE

6 Before the

7 ARIZONA CORPORATION COMMISSION

8  
9 Docket No. T-01051B-03-0454

10 Docket No. T-00000D-00-0672

11  
12 **Introduction**

13  
14 **Q. Would you please state your name and address?**

15 A. Ben Johnson, 2252 Killearn Center Boulevard, Tallahassee, Florida 32309.

16  
17 **Q. What is your present occupation?**

18 A. I am a consulting economist and president of Ben Johnson Associates, Inc., an economic  
19 research firm specializing in public utility regulation.

20  
21 **Q. Have you prepared an appendix that describes your qualifications in regulatory and**  
22 **utility economics?**

23 A. Yes. Appendix A, attached to my testimony, will serve this purpose.

1     **Q.     Does your testimony include any attachments?**

2     A.     Yes. I have attached two proprietary exhibits and five schedules. These attachments were  
3             prepared under my supervision and are true and correct to the best of my knowledge.

4  
5     **Q.     What is your purpose in making your appearance at this hearing?**

6     A.     Our firm has been retained by the Residential Utility Consumer Office ("RUCO") to assist with  
7             RUCO's participation in this proceeding, which is intended to resolve issues raised in two  
8             separate Arizona Corporation Commission (Commission) dockets – T-01051B-03-0454  
9             (which examines proposed revisions to Qwest Corporation's Arizona Price Regulation Plan)  
10            and T-00000D-00-0672 (which investigates the pricing of Qwest's intrastate switched access  
11            service).

12           Following this introduction, my testimony has five major sections. In the first section, I  
13           briefly sketch the background of this proceeding. In the second section, I discuss universal  
14           service and access issues. In this section, I sketch the historical context of key issues involved  
15           in this proceeding, including positions taken over the past century by the U.S. Supreme Court,  
16           other state public utility commissions, Congress, and the Federal Communications Commission  
17           (FCC) concerning certain issues which are crucial to the outcome of this proceeding. I focus  
18           on universal service and relate this issue to those surrounding access rates and costs. I explain  
19           that transferring cost recovery responsibility from inter-exchange carriers (IXCs) to end users  
20           (through higher local rates or per-line end user charges) may result in net benefits for high toll  
21           users but low toll users may experience higher bills, which may discourage them from having  
22           phone service. I conclude with a discussion of the proposals of Qwest Corporation (Qwest or

1           “the Company”) for changes to the Arizona universal service fund (AUSF) and whether these  
2           proposals are commensurate with a properly functioning USF.

3           In the third section, I outline how regulated telecommunications markets have evolved  
4           and the current status of those markets. In this section, I also introduce some market data in an  
5           effort to examine the effect various regulatory mechanisms have had on prices and other  
6           characteristics of these markets. I discuss the inflation offset, or “X” factor, which is a key part  
7           of the price cap plans in Arizona and most other jurisdictions.

8           In the fourth section, I summarize and respond to Qwest’s claims regarding the  
9           competitive landscape in Arizona. In this section, I use market data to examine the extent to  
10          which competitive local exchange carriers (CLECs) have been successful in competing with  
11          Qwest. The fifth section contains my response to individual revisions that the Company is  
12          proposing (the proposed Plan) relative to its existing Arizona Price Regulation Plan (the current  
13          Plan).

14  
15       **Q.     Would you please very briefly summarize your conclusions?**

16       **A.**As I explain in section two of my testimony, the investigation of switched access charges that  
17               has been merged into this proceeding is closely tied to the concept of universal service. To  
18               achieve further reductions in switched access rates, Qwest will most likely seek higher local  
19               exchange rates. This type of “rate rebalancing,” as it has been called, could endanger the  
20               universal service goal, particularly if it is implemented in an extreme manner. My analysis  
21               comparing the revenues Qwest generates from a typical customer’s bill to the costs it incurs in  
22               serving that customer indicates that residential rates are not “subsidized.” However, they do not

1 generate profit margins as large as those generated by business rates. Hence, Qwest could use  
2 its proposed pricing flexibility to increase residential local exchange rates, particularly in the low  
3 density, higher cost parts of the state where margins are slim, and competition is limited.

4 If the Commission is convinced that the existing system of implicit support is not  
5 sustainable or acceptable, it would be more appropriate to revamp the Arizona Universal  
6 Service Fund, to provide an appropriate mechanism for dealing with these cost disparities. In  
7 section two, I outline how the AUSF can be properly constructed using benchmarks and  
8 geographic averaging.

9 As I explain in section three of my testimony, rate of return regulation and effective  
10 competition have historically been quite successful in forcing firms to provide customers with the  
11 benefits of cost reductions and requiring customers to compensate firms for cost increases. I  
12 present graphical evidence that, historically, traditional regulation has been effective in reducing  
13 prices to reflect declining costs. In recent years, however, as regulators have moved away  
14 from traditional regulation and toward alternatives (like price caps), the RBOCs have not  
15 passed through to consumers a large portion of the cost reductions they have experienced since  
16 about 1995. I present further graphical evidence that neither the current regulatory system, nor  
17 competitive pressures, are forcing rates down to levels that are fully consistent with the declining  
18 level of costs incurred by the RBOCs.

19 As I explain in section four, the Arizona telecommunications market continues to retain  
20 barriers to entry for competitive carriers. I attempt to measure those barriers to entry through  
21 an examination of competitors' market shares. I found that in many parts of the state, local  
22 competitors have not yet enjoyed much success in penetrating the local exchange market,

1 developing a market presence, gaining customers, or building revenues. Despite the Company's  
2 rhetoric and selective evidence, the competitive market penetration is very modest in many  
3 parts of the state, as indicated by the Company's dominant market share. The mere fact that a  
4 certain number of "warm bodies" have shown up and announced their intention to offer local  
5 telephone service is not indicative of the extent to which meaningful "entry" is actually occurring  
6 or the extent to which customers are willing to accept these firms' offerings as viable substitutes  
7 for those of their existing carrier.

8 As I explain in section five, after careful review of each of Qwest's proposed changes  
9 to its current Plan, I conclude that most of the changes it proposes do not represent an  
10 improvement over the current Plan. Some of the proposed changes would exacerbate existing  
11 flaws, or they would create new problems. As a result, I have proposed an alternative Plan  
12 with an alternative basket structure and an alternative system of price caps. Of note, I believe it  
13 is appropriate to continue using a productivity offset to cap rates because (1) it better ensures  
14 that industry-wide increases in incumbent local exchange carrier (ILEC) productivity and  
15 decreases in ILEC costs will be passed through to customers, and (2) historical industry wide  
16 data confirms that a 4% or 5% offset is not too large. Finally, in this section, I conclude that  
17 many of Qwest's rate design proposals are reasonable, provided that Qwest implements these  
18 proposals within the confines of the pricing flexibility afforded by the price cap system, and  
19 provided that any expansion of the AUSF is accompanied by appropriate structural  
20 improvements to the fund.  
21  
22

**I. BACKGROUND**

*T-00000D-00-0672 (Access Docket)*

**Q. Would you please begin by briefly sketching the background of the Access Docket?**

A. Certainly. The Commission opened the Access Docket in September 2000 with the intent of analyzing the relationship between the rates charged and the costs incurred in the provision of access service. [Procedural Order, December 3, 2001, p. 1] Due to "significant changes" that it cited as having occurring in access markets, the Commission Staff (Staff) filed a request for a procedural order in this docket on November 21, 2001. [Id.] In that request, Staff developed a list of 25 questions which it felt the Commission should seek comment on from the intervening parties. [Id., pp. 2-4] The Commission subsequently issued a Procedural Order on December 3, 2001. [Id., p. 5] In that Order, the Commission asked parties to comment on each of Staff's 25 questions and asked Staff to file a proposed procedural schedule. [Id., p. 2] The list of questions covered such topics as methods for reforming intrastate access charges, implicit subsidies, monopoly power in access markets, universal service, and a host of procedural matters.

After having the time to file comments extended by the Commission, the Arizona Local Exchange Carrier Association ("ALECA"), AT&T, Citizens Communications, Cox Telecom, Eschelon Telecom, Qwest, RUCO, Sprint, Table Top Telephone Company, Verizon, and Worldcom all filed responses to the Commission's questions by March 8, 2001. [Staff Recommended Procedural Order, March 28, 2002, pp. 1-2] After reviewing the filed

1 comments Staff recommended that the Commission open a generic proceeding in which the  
2 parties could file multiple rounds of testimony. [Procedural Order, May 21, 2002, p. 1] Staff  
3 felt that parties should be required to draft direct testimony that answered four general  
4 questions, similar to those asked in the first Procedural Order.

- 5  
6 1. Whether IXCs may be at a competitive disadvantage if access  
7 charges are not reformed.
- 8 2. Whether transferring cost recovery responsibility from IXCs  
9 through CCL charges to end users (through flat rate end user  
10 charges) results in end users subsidies of ILEC-provided toll  
11 services.
- 12 3. Whether transferring cost recovery responsibility from IXCs  
13 (through CCL charges) to end users (though end flat rate end  
14 user charges) results in end user benefits.
- 15 4. What considerations make access charge reform in the public  
16 interest and in addition what considerations make the interested  
17 party's proposed access charge reform plan in the public  
18 interest. [Id., pp. 1-2]  
19

20 Following a Qwest response which sought to exclude the consideration of special  
21 access issues from this proceeding, the Commission issued a Procedural Order on May 21,  
22 2002. The Commission declined to exclude discussion of special access, while recognizing that  
23 the primary focus of the investigation is switched access, and it adopted these four general  
24 questions for purposes of guiding the parties' testimony. [Id., p. 3] The Order also set a  
25 procedural timetable for the filing of testimony.

26 On June 28, 2002 (the day that intervenors were scheduled to file direct testimony),  
27 Staff filed a Motion to Suspend the Procedural Schedule. It did so because it did not have  
28 "sufficient resources available to adequately address the very complex and difficult issues raised

1 in this case.” [Procedural Order, July 8, 2002, p. 1] The Commission granted the motion on  
2 July 8, 2002.

3 Parties to the Access Docket filed briefs on November 3, 2003, addressing (1)  
4 whether the Commission must make a fair value determination and (2) whether Qwest’s access  
5 charges should be examined separately from other carriers’. In a November 17, 2003  
6 Procedural Order, the Commission ruled as follows.

7  
8 The general consensus of all parties is that access charges may not be  
9 reduced outside the context of a rate setting proceeding unless, at a  
10 minimum, a revenue-neutral mechanism is developed. Due to these  
11 limitations, and because Qwest has requested a review of its current  
12 rate cap plan in Docket NO. T-01051B-03-0454, it is appropriate to  
13 consider Qwest’s access charges in conjunction with its rate cap  
14 review, where all of Qwest’s rates will be analyzed. [Procedural Order,  
15 November 17, 2003, p. 3]  
16

17 The Access Investigation was subsequently combined with the rate cap review in this  
18 proceeding, and thus it is feasible for the Commission to implement changes to Qwest’s access  
19 rate structure in this proceeding, should it decide this is appropriate.  
20

21 *T-01051B-03-0454 (Price Cap Docket)*  
22

23 **Q. Would you please begin by briefly sketching the background of the Price Cap Docket?**

24 **A.** Yes. The origin of the Price Cap Docket can be found in the Commission’s Order No. 63487.  
25 This Order approved the Company’s current Plan. The current Plan was contained within a  
26 Settlement Agreement drafted by Qwest and Staff and filed with the Commission on October



20, 2000 in Docket No. T-01051B-99-0105. One of the provisions of that Settlement

Agreement was a requirement that Qwest

submit an application for continuation or modification of the Price Cap Plan nine months prior to its expiration, to be reviewed by Staff and RUCO. Continuation or modification of the Plan is subject to Commission approval and the Plan remains in effect pending a Commission decision renewing, modifying or terminating it. [Decision No. 63487, March 30, 2001, p. 6]

Qwest filed its application on July 1, 2003. Specifically, Qwest filed a Revised Price Regulation Plan (proposed Plan). The Commission's Decision No. 66772 lays out some of the major provisions of the proposed Plan.

1. Elimination of the productivity/inflation adjustment mechanism;
2. Replacement of an indexed basket cap on the Basic/Essential Service Basket with a newly determined revenue cap;
3. Introduction of a "competitive zone" test for moving services out of the Basic/Essential Services Basket on a geographic basis;
4. Ability to move wholesale services to a competitive sub-basket within Basket 2;
5. Elimination of the revenue cap on the Competitive Services Basket; and
6. Greater flexibility for services in the Competitive Services Basket.

[Decision No. 66772, February 10, 2004, p. 1]

Decision No. 66772 was issued on February 10, 2004 as a response to a November 7, 2003 Qwest Motion to Clarify, Or In the Alternative, Terminate Price Cap Plan. In the Motion, Qwest asked the Commission whether (1) the Price Cap Index for Basket 1 Services,

1 (2) access charges, and (3) the hard caps for Basket 1 Services would change if the current  
2 Plan were to expire on March 30, 2004. In its Decision No. 66772, the Commission ruled that  
3 the Price Cap Index and hard caps for Basket 1 Services would remain in place even if the  
4 Commission did not approve a revised Price Regulation Plan by March 30. The Commission  
5 also directed Qwest to make a final \$5 million reduction in switched access charges on April 1,  
6 2004.

7 On February 25, 2004, Qwest filed an Application for Rehearing of Decision No.  
8 66772. In that Application, Qwest challenged each of the Commission's findings. After debate  
9 among five parties to the case, the Commission chose to affirm its Decision No. 66772 findings  
10 regarding Basket 1 mechanisms, but it "reconsidered" its finding regarding access charge  
11 reductions. [Decision No. 67047, June 18, 2004, p. 7]

12 Decision No. 66772 was also important insofar as it required the Company to comply  
13 with the filing requirements of A.A.C. R14-2-103 (103). The Commission chided Qwest for  
14 not, to that point, filing updated and accurate financial statements. The 103 filing that Qwest  
15 was ordered to assemble would contain those statements. Decision No. 66772 read:

16 Under the terms of the Settlement Agreement, Staff is entitled to  
17 request whatever information it believes is necessary for its analysis.  
18 Thus, Qwest has agreed to provide Staff with the information that  
19 would be required under R14-2-103, if Staff believes such information  
20 is necessary for its analysis. Because at this point, Qwest is seeking to  
21 continue some sort of Price Cap Regulation, Staff should review the  
22 information required under R14-2-103 to determine if the form of the  
23 information that must be provided pursuant to that rule is best suited to  
24 Staff's task of reviewing the experience under the current Price Cap  
25

1 Plan and for evaluating a modified plan. [Decision No. 66772,  
2 February 10, 2004, p. 9]  
3

4 Qwest submitted its 103 filing on May 20, 2004, simultaneous to the testimony of nine  
5 Company witnesses.  
6

7 **Q. Are you familiar with the testimony that has been filed by Qwest in this proceeding?**

8 A. Yes. Peter Cummings testified to the fair rate of return on equity and total capital for Qwest in  
9 connection with the Company's 103 filing. Phillip Grate testified to the contents of Qwest's  
10 103 filing. Nancy Heller Hughes testified to the Reproduction Cost New Less Depreciation  
11 (RCNLD) value of Qwest's Arizona plant. Scott McIntyre testified in support of revisions to  
12 Private Line, Switched Access, and Billing and Collection services that the Company has  
13 introduced in this proceeding. Teresa Million testified to the contents of the Total Service Long  
14 Run Incremental Cost (TSLRIC) studies that have been filed in support of the price changes  
15 that the Company has filed in this proceeding. Harry Shooshan III testified to a policy  
16 framework for the proposed Plan and the current competitive conditions that exist in Qwest's  
17 service area in Arizona. David Teitzel testified to the current competitive conditions that exist in  
18 Qwest's service area in Arizona and the Company's proposals that are intended to address  
19 increasing competitive pressures. K. Dennis Wu testified to a "technical update" for Qwest's  
20 Arizona depreciation rates. Finally, David Ziegler's testimony details the Company's 103 filing,  
21 proposed Plan, rate restructuring proposals, AUSF proposals, and access proposals.

I will be responding to some of the issues raised in the Qwest testimony, while other RUCO witnesses will be responding to other issues.

*Qwest Proposed Plan*

**Q. Would you please summarize the ways in which the proposed Plan differs from the current Plan?**

**A. Yes. The following are some key provisions of the current Plan:**

1. Existing services are grouped into three baskets.
2. Prices for Basic/Essential Non-competitive Services cannot change in a given year by more than the change in the preceding year Gross Domestic Product Price Index (GDP-PI) minus an Offset.
3. Prices for certain Basic/Essential Non-competitive Services, like flat rate residential and business service, cannot exceed their initial levels for the term of the current Plan.
4. Prices for all other Basic/Essential Non-competitive rate elements cannot change in a given year by more than 25%.
5. Prices for all Wholesale services cannot exceed their initial levels for the term of the current Plan unless the pricing rules governing them are altered.
6. Intrastate Switched Access Services must be reduced by \$5 million per year for each of three years.

- 1           7.     Prices for Flexibly-priced Competitive Services cannot change in a given year by more
- 2                     than 10%.
- 3           8.     Initially, revenue headroom for Flexibly-priced Competitive Services is capped at
- 4                     \$25.3 million but will increase by \$5 million per year to offset the \$5 million per year
- 5                     reductions in Intrastate Switched Access Services.
- 6           9.     All new and packages services (unless they are wholesale in nature) are classified as
- 7                     Flexibly-priced Competitive Services.
- 8           10.    The designation of Basic/Essential Non-competitive Services can be changed to
- 9                     Flexibly-priced Competitive Services if they meet the "competitive" standards of
- 10                    A.A.C. R14-2-1108.
- 11          11.    Yearly, Qwest will file with the Commission a report containing the prices and
- 12                     quantities of its price capped services, as well as the Basic/Essential Non-competitive
- 13                     Services and Flexibly-priced Competitive Services indicies.

14

15           The following are some key provisions of the proposed Plan:

16

- 17          1.     Services are grouped into three baskets.
- 18          2.     Prices for Basic/Essential Non-competitive Services cannot change in a given year by
- 19                     more than a basket-level revenue cap.
- 20          3.     Prices for individual Basic/Essential Non-competitive Services may be increased so
- 21                     long as Commission approval is obtained.

4. Qwest can establish "competitive areas" or zones in which competitive carriers are marketing or offering "alternative" services provided over the competitors' facilities.
5. Basic/Essential Non-competitive Services provided in competitive zones will be reclassified as Flexibly-priced Competitive Services.
6. The Wholesale Services basket is split into two subparts – A (non-competitive services) and B (competitive services).
7. Prices for Wholesale A Services cannot exceed their initial levels for the term of the current Plan unless the pricing rules governing them are altered.
8. Prices for Wholesale B Services can change with Commission approval, consistent with A.A.C. R14-2-1109.
9. The Commission can grant approval to the Company for the transfer of services from Wholesale A to Wholesale B.
10. The Company has nearly complete freedom to increase or decrease prices for Flexibly-priced Competitive Services.
11. All new services and new packages of services are classified as Flexibly-priced Competitive Services.

**Q. Would you please discuss in greater detail some of the most significant changes being proposed by Qwest?**

**A.** Yes. The first and most obvious difference is the establishment of "competitive areas" or "zones" – Qwest wire centers in which competition is demonstrably present. [Proposed Plan, footnote 2] Qwest has included the following provision in its proposed Plan.

1 Qwest is allowed under the Renewed Price Plan to make filings  
2 supporting its evidence showing that telephone services are competitive  
3 in a specific geographic relevant market area (i.e., a *Competitive*  
4 *Zone*). Upon application by Qwest and a showing of competition within  
5 specific wire centers or geographic subset thereof, whether or not from  
6 certificated providers, the Commission may designate each such wire  
7 center or geographic subset thereof as a Competitive Zone. [Proposed  
8 Plan, 2.iv.]  
9

10 Competitive zones would be used to reclassify services in the Basic/Essential Non-competitive  
11 basket to the Flexibly-priced Retail Competitive basket. [Id., 2.vii.] This "competitive zone"  
12 concept is not included in the current Plan.  
13

14 **Q. How does the Company define a competitive zone?**

15 A. The simple answer is that a competitive zone is a wire center, or group of wire centers, in which  
16 the Company is experiencing competitive pressures for "a group of identified services."  
17

18 **Q. How does the Company determine if it is experiencing competitive pressures in a**  
19 **given area?**

20 A. The proposed Plan contains a two-pronged test. First, "alternative" services to Qwest's  
21 services must be present in the area. Qwest defines these "alternatives" as "functionally  
22 equivalent or substitute services readily available at competitive rates, terms and conditions."  
23 [Id., footnote 3] Second, these alternatives must be "reasonably available" to consumers in the  
24 area. Qwest defines "reasonably available" as follows:  
25

1           Either (one of each or, two of type 1 or, two of type 2):

2           (1)    A competitor has facilities in place and is marketing or offering  
3                    services in competition with Qwest; and/or,

4           (2)    A competitor is marketing or offering services through the  
5                    provision of unbundled network elements provided by Qwest.

6           [Id., 2.vi.]  
7

8       **Q.    What is the implication of this competitive zone approach?**

9       A.    Under the proposed Plan, as in the current Plan, Basic/Essential Non-competitive Services  
10            receive the greatest amount of pricing constraint. To the extent certain of these services are  
11            determined to be provided in a competitive zone, they will be shifted to the Flexibly-priced  
12            Retail Competitive Category; as a result, they will be subject to far fewer pricing constraints;  
13            arguably, the Company will be free to charge whatever the market will bear. [Id., footnote 2]  
14

15       **Q.    How do Qwest witnesses support the competitive zone approach?**

16       A.    Mr. Shooshan summarizes the Company's reasoning.

17  
18            The new competitive zone test is preferable to a statewide,  
19            service-by-service approval for two reasons. First, a  
20            service-by-service approach to the classification of competitive services  
21            is not necessary or appropriate. This is warranted since Qwest's  
22            competitors typically offer—and customers increasingly  
23            purchase—packages of services rather than individual services.  
24            Second, the competitive zone approach takes into account the reality  
25            that competition is more intense in certain geographic areas and less so  
26            in others. R 14-2-1108 does not require that services be deregulated  
27            only on a statewide basis. Indeed, the Commission has invited parties  
28            to propose an approach to deregulating services in defined areas where  
29            Qwest faces competition.. [Shooshan Direct, pp. 12-13]  
30



1 Mr. Teitzel believes that the added pricing flexibility that Qwest would gain in competitive zones  
2 is warranted because it is a measure of flexibility already enjoyed by CLECs in the state.

3  
4 CLECs are selecting specific wire centers and geographic areas within  
5 the state in which to offer service and are approaching service  
6 introduction on a gradual, phased-in basis in Qwest's service territory.  
7 As indicated in the Competitive Landscape section above, in tariffs filed  
8 with the Commission, several CLECs have identified specific wire  
9 centers in which they will provide service. ... Qwest's competitors  
10 enjoy the flexibility of being able to serve select markets and design  
11 offerings to meet specific customer demands within those areas. [Teitzel  
12 Direct, pp. 71, 72]  
13

14 Mr. Ziegler concludes that it is for this reason that pricing services according to competitive  
15 zones "will permit Qwest to compete on equal terms and will provide the ratepayers of Arizona  
16 with the benefits of a true competitive choice." [Ziegler Direct, p. 10]  
17

18 **Q. What wire centers does Qwest propose to classify as competitive zones?**

19 **A.** Mr. Teitzel proposes that the following wire centers within the Phoenix metropolitan statistical  
20 area (MSA) be classified as competitive zones.

21  
22 Beardsley, Buckeye, Chandler Main, Chandler South, Chandler West,  
23 Coolidge, Circle City, Casa Grande, Cave Creek, Deer Valley,  
24 Dudleyville, Eloy, Florence, Foothills, Ft. McDowell, Rio Verde,  
25 Coldwater, Gila Bend, Glendale, Higley, Queen Creek, Kearny,  
26 Litchfield Park, Gilbert, Mesa, Mammoth, Maricopa, New River,  
27 Oracle, Bethany West, Cactus, Phoenix East, Phoenix Main, Phoenix  
28 North, Phoenix Northeast, Phoenix Northwest, Phoenix South,  
29 Phoenix Southeast, Phoenix West, Greenway, Laveen, Mid Rivers,  
30 Maryvale, Pecos, Peoria, Sunnyslope, Pinnacle Peak, Scottsdale Main,

1           Shea, Thunderbird, San Manuel, Superior, Superstition East,  
2           Superstition Main, Superstition West, Stanfield, Tempe, McClintock,  
3           Tolleson, Wickenburg, White Tanks, Whitlow, Wintersburg [Teitzel  
4           Direct, pp. 74-75]  
5

6           Mr. Teitzel proposes that the following wire centers within the Tucson MSA be classified as  
7           competitive zones.

8  
9           Coronado, Green Valley, Marana, Catalina, Cortaro, Craycroft,  
10          Flowing Wells, Tucson East, Tucson Main, Tucson North, Tucson  
11          South, Tucson Southeast, Tucson Southwest, Tucson West, Mt.  
12          Lemon, Rincon, Tanque Verde, Vail North, Vail South [Id., p. 75]  
13

14          Cumulatively, these wire centers encompass 83.3% of Qwest's retail access lines in the state.  
15

16   **Q.    Why did Mr. Teitzel select these wire centers?**

17   A.    Because

18  
19          in each of the proposed competitive zones, at least one competitor  
20          provisions service through the use of Qwest wholesale services  
21          including unbundled network elements, resale, unbundled loops, and  
22          Local Interconnection Service ("LIS") trunks used to provide service  
23          over a provider's own facilities, such as in the case of cable telephony.  
24          [Id.]  
25

26   **Q.    How can Qwest rationalize relying on the presence of a single wireline competitor in**  
27   **order to classify a wire center as a competitive zone?**

28   A.    This isn't clear, but perhaps Qwest is at least implicitly relying on the existence of firms offering  
29   other communication services. Mr. Shooshan explains:

1 This approach does not consider wireless competitors, of which there  
2 are usually between 2 and 6 licensees in each market, or emerging  
3 competing platforms such as Voice over Internet Protocol ("VoIP").  
4 Mr. Teitzel identifies wireless and VoIP providers currently serving  
5 Arizona business and residence customers. The possibilities of  
6 competition from these technologies should not be under-estimated.  
7 [Shooshan Direct, p. 13]  
8

9 **Q. Are there other significant differences between the current Plan and the proposed**  
10 **Plan?**

11 A. Yes. There are also differences in the specific pricing constraints that apply to the various  
12 baskets. The current Plan includes a number of provisions that limit the extent to which the  
13 Company can increase rates for services in each of the current Plan's three baskets. The  
14 "inflation minus productivity" indexing mechanism, hard service caps, and rate element cap in  
15 Basket 1 are all examples of existing provisions that limit the Company's pricing flexibility.  
16 These specific provisions and others would be modified in the proposed Plan, thereby providing  
17 greater opportunities to charge higher prices to all the Categories. The current Plan describes  
18 the "inflation minus productivity" indexing mechanism as follows:

19  
20 Given the uncertainty of recent interpretations of Arizona law regarding  
21 rate increase mechanisms, for the initial three year term of the plan, the  
22 weighted average price level (or "price Index") of all services contained  
23 in Basket 1 is capped, using an "inflation minus productivity" indexing  
24 mechanism, subject to annual updates in the quantities of demand for  
25 each service. [Current Plan, 2.b.i.]  
26

1 "Productivity" (Offset or X) is specified in the current Plan, and equals 4.2% for the  
2 Basic/Essential Non-Competitive Services basket. In the proposed Plan, the indexing  
3 mechanism is replaced with a "basket-level revenue cap." [Proposed Plan, 2.b.i.]  
4

5 **Q. Can you define the revenue cap in the proposed Plan?**

6 A. Unfortunately, I'm not sure I can. The language in the proposed Plan introduces an ambiguous  
7 "basket-level revenue cap" within which the Company can make "revenue-neutral filings" and  
8 petition the Commission for "non-revenue neutral price increases." However, no reference is  
9 made to the specific level at which Basket 1 prices will be capped under the proposed Plan.

10 Additionally, neither Mr. Shooshan, nor Mr. Ziegler (the only two Qwest witnesses  
11 who discuss this difference between the current and proposed Plans), define the revenue cap.  
12 Mr. Shooshan simply claims that

13  
14 The overall revenue cap is an important improvement over the  
15 productivity/inflation index that resulted in overall revenue decreases for  
16 the past 3 years. These automatic revenue reductions are clearly  
17 unsustainable over any long period of time. [Shooshan Direct, pp. 6-7]  
18

19 Mr. Ziegler provides some additional information only insofar as he gives some idea as to how  
20 the Basket 1 basket-wide cap will change from the current to the proposed Plan.

21  
22 Qwest is proposing to replace the current Basket 1 Cap with a new  
23 cap reflecting the effect of the rate rebalancing proposed in the  
24 testimony of Mr. Teitzel and Mr. McIntyre, and the elimination of  
25 distance-sensitive zone charges for customers in retail Zones 1 and 2  
26 (\$1.00 in Zone 1 and \$3.00 in Zone 2). The impact of these revisions

1                   will be a slight downward adjustment in the Basket 1 Cap, which will  
2                   then remain unchanged over the life of the revised plan. [Ziegler Direct,  
3                   p. 9]  
4

5                   So, it appears that the proposed plan will no longer require rates to decline with declining costs  
6                   (based upon industry-wide improvements in productivity and reductions in input costs), and it  
7                   appears that changing to a "revenue cap" will help accomplish this "improvement" thereby  
8                   helping Qwest charge higher rates and earn higher profits. However, it is not clear precisely  
9                   how the new "revenue cap" will work, or how this proposal differs from what would happen if  
10                  the existing plan were simply modified to eliminate both the inflation and the "X" factors.  
11

12       **Q.     How does Qwest support removal of the indexing mechanism?**

13       **A.     Mr. Shooshan address this change to the pricing rules. He supports the removal insofar as it is**  
14                  not consistent with the current competitive marketplace.

15                               There is a growing recognition that competition can now serve as a  
16                               constraint on both prices and earnings, and as a means for distributing  
17                               the gains from increased productivity. Indeed, there is an even more  
18                               fundamental effect of competition that must be noted here. As I  
19                               mentioned previously, competition has substantially increased the risks  
20                               faced by Qwest in the marketplace. As a result, attempting to gauge  
21                               the appropriate rate of return—even indirectly or implicitly by means of  
22                               a productivity offset—is much more problematic today than it was  
23                               historically. [Shooshan Direct, pp. 8-9]  
24  
25

26                  And  
27

1 Today, given the inroads being made by competitors, Qwest faces the  
2 real risk in many geographic areas of excess capacity and/or stranded  
3 plant—both of which reduce productivity. The revenue cap proposed  
4 by Qwest here requires Qwest to increase productivity more rapidly  
5 than the economy as a whole by the rate of inflation in order to maintain  
6 a level of profitability. In today's environment, that plan poses a  
7 sufficiently difficult challenge to Qwest. [Id., p. 10]  
8

9 He also claims that removal of the indexing mechanism will benefit consumers.

10  
11 Taking this step now will give Qwest the incentives to continue to make  
12 the investments in its network that are necessary to meet the demands  
13 of the "digital information age" (e.g., fiber and packet-switching). This  
14 investment will benefit consumers who choose Qwest as their provider  
15 and competitors that choose to resell Qwest's services or to rely on  
16 Qwest's network. It will also spur competitors to make infrastructure  
17 investments of their own to compete with a modern, state-of-the-art,  
18 feature-rich Qwest network. [Id., p. 9]  
19

20 And

21  
22 Consumers in general are protected by the overall revenue cap on  
23 Basket 1. As I noted previously, any price changes in Basket 1  
24 services must be revenue neutral. Price increases must be offset by  
25 price reductions. Consumers will also benefit to the extent that Qwest  
26 is better able to price its services to the market. The result will be that  
27 Qwest and its many competitors will be forced to compete harder. [Id.,  
28 p. 11]  
29  
30

1     **Q.     Earlier you referenced hard caps on Basket 1 services as another example of a pricing**  
2           **constraint in the Company's current Plan. Is Qwest proposing changes to this**  
3           **constraint?**

4     A.     Yes. Mr. Shooshan writes

5  
6           Additionally, the "hard cap" on certain services in Basket 1, while  
7           serving to protect consumers of these basic services during what  
8           amounted to a transition to price regulation, nonetheless has severely  
9           limited Qwest's ability to adjust its overall pricing to reflect market  
10          conditions. [Shooshan Direct, p. 7]  
11

12          In other words, the Company is asking for permission to "respond to competitive pressures" by  
13          increasing rates for flat rate residential, flat rate business, telephone assistance programs, PBX  
14          trunks with features, basic listing service, and other services. It is unclear why Mr. Shooshan  
15          thinks competition is somehow creating "pressure" for Qwest to raise its prices. Normally,  
16          competition from low cost firms places downward pressure on the prices. While upward  
17          pressures also can occur, these are typically the result of inflation or declining productivity, not  
18          competition.  
19

20     **Q.     You spoke of a rate element cap on Basket 1 services earlier. Is Qwest proposing**  
21           **changes to this constraint?**

22     A.     Yes. Under the current Plan, there is a pricing constraint that applies to individual *rate*  
23           *elements* in Basket 1. Under the proposed Plan these constraints are eliminated, allowing  
24           Qwest to increase individual *rate elements* as much as it wants, provided other *rate elements*

1 are decreased (or are increased by a lesser amount). For instance, under the current Plan,  
2 price increases for individual *rate elements* cannot exceed 25% in a given year. Under the  
3 proposed Plan, price increases for individual *services* are unchecked so long as they are  
4 "revenue neutral."

5 In effect, under the proposed pricing rules, Qwest would only be constrained in its  
6 ability to make "non-revenue neutral price increases." Further, these increases apply to entire  
7 *services*. It would no longer face constraints on its freedom to increase the rates paid by  
8 specific groups of customers or customers in specific geographic areas. This follows directly  
9 from the fact that a service is often comprised of many different "rate elements" which may  
10 apply disproportionately to specific service configurations, geographic areas, or types of  
11 customers.

12 An example of a service in the Basic/Essential Non-competitive Services basket in the  
13 current Plan is Custom Calling Services (TIM Code E5.4.3). A rate element that partially  
14 comprises that service is Call Waiting (USOC ESX). Under the current Plan, Qwest is  
15 allowed to increase rates for Call Waiting or any other rate element within the larger Custom  
16 Calling Services by no more than 25% in a year. Were the 25% cap applied on a service  
17 basis, Qwest would be able to increase rates for Call Waiting or any other specific rate element  
18 within the Custom Calling Services category by any percentage amount (e.g., 200%), provided  
19 there are offsetting reductions in other rate elements. This increased freedom to increase  
20 individual rate elements implies a corresponding expansion in the Company's ability to  
21 dramatically increase the rates applicable to specific service sub-categories, geographic areas,  
22 and/or customers.



1     **Q.     Has Qwest proposed changes to the pricing constraints in Baskets 2 and 3?**

2     A.     Yes. In its proposed Plan, the Company has split the Wholesale Services basket (Basket 2)  
3           into an A and a B part.

4  
5           Basket 2A consists of wholesale services which are governed by their  
6           own specific pricing rules and will continue to be governed by such  
7           rules, as interpreted by the Commission and the Courts, under this  
8           Renewed Price Cap Plan. [Proposed Plan, 3.b.]

9  
10          Basket 2A service prices are capped for the term of the Renewed  
11          Price Cap Plan, or until the specific pricing rules are changed or the  
12          Commission determines that other prices are appropriate. [Id., 3.e.]

13  
14          Basket 2B consists of wholesale services that have been deemed to not  
15          be UNEs thus not subject to the pricing rules of UNEs. [Id., 3.c.]

16  
17          Basket 2B service prices are not capped for the term of the Renewed  
18          Price Cap Plan and may be changed with Commission approval as  
19          directed by A.A.C. R14-2-1109. [Id., 3.e.]  
20

21          This delineation was not made in the current Plan and all services in Basket 2 were capped for  
22          the term of the Plan at their initial rates. [Current Plan, 3.e.]

23          As for Basket 3, Qwest has proposed the removal of the revenue cap therein. The  
24          current Plan includes a revenue cap equal to the "weighted average price level of all the services  
25          in the Basket" as calculated by a formula. Mr. Shooshan provides the Company's logic for  
26          removing this cap and, in turn, allowing the Company near complete pricing freedom over the  
27          services in this basket.  
28

1 Over the course of the current price regulation plan, competitive  
2 pressures have been effective at keeping these prices within the cap.  
3 We can expect that pressure from competitors to intensify as  
4 competition continues to progress in Arizona. Since the point of  
5 regulation is to act as a substitute for competition and competition is  
6 pervasive, regulation of competitive services is a waste of resources to  
7 achieve the goals which competition has been proven to meet more  
8 effectively. Elimination of this cap simplifies the regulatory rules and  
9 conditions that Qwest must meet and conserves resources for both the  
10 Company and the Commission, as well as for other parties. [Shooshan  
11 Direct, p. 16]  
12

13 **Q. Are these proposed changes in pricing rules significant?**

14 **A.** Yes. As with competitive zones, the pricing rules in the proposed Plan will afford the Company  
15 far greater freedom to exploit its remaining monopoly power, and to engage in pricing strategies  
16 designed to maximize its profits. Under the current Plan, the GDP-PI minus 4.2% cap has  
17 typically fluctuated in the vicinity of 1% or less. In fact, because inflation has been low relative  
18 to the "X" factor, Qwest has been forced to lower its prices in line with industry-wide cost  
19 reductions.. By removing the GDP-PI minus 4.2% cap and replacing it with a revenue cap,  
20 Qwest is asking for the freedom to maintain prices under declining industry-wide cost  
21 conditions, or possibly to increase its prices under those conditions. The impact on specific  
22 customers, service sub-categories and geographic areas could be dramatic, if the rate element  
23 cap is also eliminated, as proposed. For instance, the current Plan precludes individual rate  
24 element increases of more than 25%. As a result, no customers will experience an increase in  
25 their Basic Service rates of more than 25% within a year. In contrast, under the proposed Plan

1           some customers could experience annual rate increases of 200% or more, provided Qwest  
2           keeps the overall average level of prices consistent with the overall revenue cap.

## 3 4   **II. UNIVERSAL SERVICE**

### 5 6   *The Access Relationship*

7  
8   **Q.   Let's turn to the second section of your testimony. Would you please begin by**  
9       **providing a brief definition of intrastate access charges?**

10   **A.**   Yes. These are rates charged by LECs and paid by interexchange carriers (IXCs) for the  
11       origination and termination of long distance calls. When an end user places or receives a toll  
12       call, they typically use a phone line provided by their local exchange carrier, even if the call is  
13       handled by an IXC. In the latter case, the IXC typically bills the end user for the phone call,  
14       and the IXC pays one or more LECs for the use of network facilities which are used in  
15       processing the call. These inter-carrier billings are referred to as "switched access charges."  
16       The current system of access charges has evolved since the mid 1980's, but it represents a  
17       continuation of a cost recovery process which has existed for a much longer period. Although  
18       this cost recovery process has undergone extensive review and modification, it continues to be  
19       an important source of revenues for the LECs, and is one of the reasons why local exchange  
20       rates remain as low as they are—particularly in rural areas.

1     **Q.     Is the debate over the relationship between access costs and access rates a new one?**

2     A.     No. For more than 20 years, interexchange carriers have advanced the argument that they  
3           should be allowed to use the local networks without paying anything for this privilege. They  
4           have advanced many different arguments in support of this position, including the contention  
5           that the costs in question are "non-traffic sensitive" (NTS) and these costs shouldn't be  
6           recovered through traffic sensitive toll charges (or access charges), the argument that the costs  
7           of the local loop are entirely the responsibility of the end user who is connected to that loop,  
8           and the argument that economic efficiency or some other goal will be furthered if cost  
9           responsibility is shifted from toll to local markets.

10                 Prior to divestiture, the argument was that toll competition was increasing, and that local  
11           rates needed to be increased in order to "level the playing field" and protect the financial  
12           viability of the local carriers in the face of increased toll competition. By the mid-1980's, this  
13           theme was amplified and repeated throughout the country, with an emphasis on the potential  
14           effect of equal access and divestiture. Some of the Bell Operating Companies (BOCs) even  
15           implied that unless local rates were dramatically increased at the time of divestiture, disaster  
16           would befall them. Events subsequently proved that the "doom and gloom" arguments were  
17           fundamentally false, or at least greatly exaggerated. Not only has history proven many of the  
18           arguments in favor of shifting cost responsibility from toll to local markets to be false, but the  
19           arguments in favor of drastic cost shifting tend to be inconsistent with both economic theory and  
20           common sense.

21                 According to this line of thinking, the local exchange networks are the responsibility of  
22           the LECs and their local customers, and the interexchange carriers should not be required to

1 pay for using these networks, or at most they should make only token payments for their use of  
2 the local networks. By this reasoning, because the IXC's don't "cause" the costs of the local  
3 networks to be incurred, and/or because their usage is "incidental" to the primary purpose of  
4 those networks, and/or because the costs in questions are classified as "non-traffic sensitive"  
5 while access charges and retail toll rates are both "traffic sensitive" rates, access rates should be  
6 reduced towards zero. According to this argument, the cost of the loop, drop wire, line card,  
7 and channel connection are exclusively part of the incremental cost of providing local exchange  
8 service, and none of these costs can properly be considered part of the cost of providing  
9 switched access. If one believes this line of reasoning, it would seem that the LECs are wrong  
10 to charge the IXC's anything more than the direct, out of pocket cost of providing switched  
11 access service.

12  
13 **Q. Has the U.S. Supreme Court issued any ruling concerning this controversy?**

14 **A.** Yes. The U.S. Supreme Court handed down a landmark decision concerning the interpretation  
15 and recovery of the joint cost of access lines more than 75 years ago in Smith vs. Illinois Bell  
16 Telephone Company ("Smith"). Writing for the Court on the question of whether the entire cost  
17 of the access line could be charged to a single service, Chief Justice Charles Evans Hughes  
18 noted as follows:

19  
20 In the method used by the Illinois Company in separating its interstate  
21 and intrastate business, for the purpose of the computations which were  
22 submitted to the court, what is called exchange property, that is, the  
23 property used at the subscriber's station and from that station to the toll  
24 switchboard, or to the toll trunk lines, was attributed entirely to the

1 intrastate service.... While the difficulty in making an exact  
2 apportionment of the property is apparent, and extreme nicety is not  
3 required..., it is quite another matter to ignore altogether the actual uses  
4 to which the property is put. It is obvious that, unless an apportionment  
5 is made, the intrastate service to which the exchange property is  
6 allocated will bear an undue burden.... [282 U.S. 150, 151 (August  
7 1923).]  
8

9 In the years since, this principle of fairly distributing the joint or fixed costs of the  
10 network to all of the users of that network has been upheld again and again. Numerous state  
11 regulators have acknowledged that loop costs are properly treated as joint costs of the full  
12 family of services that make use of the loop, including access, and they should not be loaded  
13 entirely onto just one of those services (e.g. basic local service). Despite decades of pressure to  
14 shift network costs from toll to local services, the policy of spreading these costs across multiple  
15 services has been affirmed by state public utility commissions in numerous proceedings  
16 throughout the country. I provide an extended discussion of the joint and common cost concept  
17 in Appendix B to my testimony.  
18

19 **Q. Has Congress also spoken to the issue of shifting joint and common costs entirely onto**  
20 **local service customers?**

21 **A.** Yes. The appropriate treatment of these shared costs has been vigorously debated for many  
22 years in many different forums. Thus, it isn't surprising that Congress included some specific  
23 provisions relating to this issue in the 1996 Telecom Act. The Act adds an entirely new section  
24 to federal law dealing with universal service--Section 254. Within this context, a portion of  
25 ¶254(k) reads:

1 [T]he States, with respect to intrastate services, shall establish any  
2 necessary cost allocation rules, accounting safeguards, and guidelines to  
3 ensure that services included in the definition of universal service bear  
4 no more than a reasonable share of the joint and common costs of  
5 facilities used to provide those services. [47 U.S.C. § 254(k) (1996).]  
6

7 Congress was aware of the long standing debate over the proper treatment of these  
8 costs, and the desire of many carriers to shift these costs from toll to local services, as well as  
9 the propensity of monopolists to attempt to shift costs onto their most captive customers when  
10 faced with an increased threat of competition. The remaining parts of 254(k) make it clear that  
11 the purpose behind these provisions is to prevent placing an excess cost burden on basic local  
12 service and other services included within the universal service category. While Congress hasn't  
13 mandated the specific allocation procedures to be used, or specified exactly how much of the  
14 joint costs can be placed onto the basic exchange category, it is obvious that 100% allocation  
15 of these costs onto local exchange service would be contrary to the intent of this passage.  
16

17 **Q. Historically, much of this debate has swirled around the Federal Communications**  
18 **Commission ("FCC"). What stance has the FCC taken with regard to the recovery of**  
19 **joint and common cost?**

20 **A.** The FCC has recognized that telecommunications carriers provide multiple services using a  
21 common network, and it realizes that this situation greatly complicates issues of cost recovery.

22 As the FCC has explained:

23 676. Certain types of costs arise from the production of multiple  
24 products or services. We use the term "joint costs" to refer to costs  
25

1 incurred when two or more outputs are produced in fixed proportion  
2 by the same production process (i.e., when one product is produced, a  
3 second product is generated by the same production process at no  
4 additional cost). [Implementation of the Local Competition Provisions  
5 in the Telecommunications Act of 1996, Interconnection Between  
6 Local Exchange Carriers and Commercial Mobile Radio Service  
7 Providers, CC Docket Nos. 96-98, 95-185, First Report and Order,  
8 FCC 96-325 (adopted August 1, 1996) (Local Competition Order) at  
9 ¶ 676.]  
10

11 The FCC has also recognized the fact that the loop is shared by multiple services.  
12 According to the FCC, the loop is "needed" and "used" by several telecommunication  
13 services--services which reside within both the interstate and intrastate jurisdictions. As  
14 previously acknowledged, dealing with costs associated with a shared facility can be  
15 challenging. The FCC states:

16 Determining the costs that an incumbent LEC incurs to provide  
17 interstate access services and that, consequently, should be recovered  
18 from those services, is relatively straightforward in some cases and  
19 problematic in others. ... Most facilities, however, are used for both  
20 intrastate and interstate services. ... By contrast, the cost of other  
21 facilities used for both interstate and intrastate traffic do not vary with  
22 the amount of traffic carried over the facilities, i.e., the costs are  
23 non-traffic sensitive. These costs pose particularly difficult problems for  
24 the separations process: The costs of such facilities cannot be allocated  
25 on the basis of cost-causation principles because all of the facilities  
26 would be required even if they were used only to provide local service  
27 or only to provide interstate access service. A significant illustration of  
28 this problem is allocating the cost of the local loop, which is needed  
29 both to provide local telephone service as well as to originate and  
30 terminate long-distance calls. [Access Charge Reform, Price Cap  
31 Performance Review for Local Exchange Carriers, Transport Rate  
32 Structure and Pricing and End User Common Line Charges, CC  
33



1 Docket Nos. 96-262, 94-1, 91-213, and 95-72, First Report and  
2 Order, FCC 97-158 (adopted May 7, 1997) (Access Charge Reform  
3 Order) at ¶ 23. emphasis added.]  
4

5 In its initial First Report and Order concerning the implementation of local competition,  
6 the FCC recognized that the loop is a shared facility used to provide telecommunication  
7 services which gives rise to common costs. The FCC stated:

8  
9 As discussed in greater detail below, separate telecommunication  
10 services are typically provided over shared network facilities, the cost  
11 of which may be joint or common with respect to some services. The  
12 costs of local loops and their associated line cards in local switches, for  
13 example, are common with respect to interstate access service and  
14 local exchange service, because once these facilities are installed to  
15 provide one service they are able to provide the other at no additional  
16 cost. [Local Competition Order at ¶678.]  
17

18 The FCC followed this first order with proposed rulemaking on access charge reform.  
19 In the context of this rulemaking process the FCC reaffirmed the concept that costs associated  
20 with the loop are common costs with respect to certain telecommunication services. [Access  
21 Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate  
22 Structure and Pricing and Usage of the Public Switched Network by Information service and  
23 Internet Access Providers, CC Docket Nos. 96-262, 94-1, 91-213, and 96-263, Notice of  
24 Proposed Rulemaking, Third Report and Order, and Notice of Inquiry, FCC 96-488  
25 (adopted December 23, 1996) (NPRM, Third Report and Order).] The FCC states:

26 For example, interstate access is typically provided using the same  
27 loops and line cards that are used to provide local service. The costs  
28

1 of these elements are, therefore, common to the provision of both local  
2 and long-distance service. [¶237]  
3

4 In an effort to respond to concerns about traffic sensitive recovery of NTS costs while  
5 maintaining consistency with the reasoning behind the Smith vs. Illinois Bell case, the FCC  
6 developed and announced the phase-in of an alternative to the CCL rate, called a "primary  
7 interexchange carrier charge" (PICC). The PICC was assessed on and paid by the end user's  
8 presubscribed interexchange carrier. The FCC believed that the PICC, along with the  
9 Subscriber Line Charge (SLC), would allow LECs to recover most of the interstate  
10 jurisdiction's portion of the loop cost through rates that weren't traffic sensitive. [Access Charge  
11 Reform Order at ¶54 and 55.]

12 In its decision to replace the Common Carrier Line Charge (CCL) with the PICC, the  
13 FCC stated:

14 We reject claims that a flat-rated, per line recovery mechanism  
15 assessed on IXCs would be inconsistent with section 254(b) which  
16 requires "equitable and nondiscriminatory contributions to universal  
17 service" by all telecommunication providers. The PICC is not a  
18 universal service mechanism, but rather a flat-rated charge that recovers  
19 local loop costs in a cost causative manner.[Id., ¶104.]  
20  
21

22 The FCC has also rejected the argument that loop costs aren't attributable to long  
23 distance calling: "Much of the telephone plant that is used to provide local telephone service  
24 (such as the local loop, the line that connects a subscriber's telephone to the telephone  
25 company's switch) is also needed to originate and terminate interstate long-distance calls." [Id.]  
26

1     **Q.     Let's talk about universal service. Why is this an appropriate policy goal?**

2     A.     Universal service is realized when nearly everyone is connected to the public switched  
3           telephone network, regardless of how low their income, or how little they value telephone  
4           service. Universal service is a desirable goal because it facilitates the free flow of  
5           communications within society. This benefits everyone--including the people who would  
6           otherwise not have a telephone, as well as everyone who needs to communicate with them.

7           While this goal is widely accepted, it sometimes gets less attention than it deserves.  
8           Because of the rapid changes taking place in the telecommunications industry--including  
9           increased competition, deregulation, and changing federal policies--many state regulators are  
10          hard pressed to balance the goal of universal service with other policy objectives. Even so, it  
11          should never be forgotten that all of society--including business and residential end users as well  
12          as both local and long distance carriers--benefits when nearly everyone participates on a  
13          universal, fully interconnected telephone network.

14          There is no inherent conflict between the goal of universal service, and the idea of  
15          opening the local telephone markets to competition--provided that all carriers are required to  
16          interconnect with each other on reasonable terms and conditions. In other words, nearly  
17          everyone can be connected to a universal public switched network, yet portions of that overall  
18          network may be owned and operated by competing firms. A global network of interconnected  
19          networks can achieve the goal of universal service just as effectively as a smaller group of  
20          monopoly networks. However, individual customers and carriers do not necessarily have the  
21          incentive to advance the goal of universal service. For instance, incumbent carriers may seek to  
22          discourage entry by competitors by making it difficult, or unduly costly for the newer firms to

1 interconnect with, or utilize portions of, the established firm's network. Accordingly, the  
2 Commission should establish appropriate policies to ensure that all of the networks are  
3 interconnected and compatible with each other, and to encourage every business and every  
4 household to connect to this network of networks.

5  
6 **Q. In light of the universal service goal, are there specific requirements that local rates**  
7 **must be "just, reasonable, and affordable"?**

8 A. Yes. The Consumer Protection clause of the 1996 Telecommunications Act provides that both  
9 the FCC and the states "should ensure that universal service is available at rates that are just,  
10 reasonable, and affordable." [§ 254(i)]. This is the first time that Congress has used the term  
11 "affordable" in the context of universal service. The extent to which people can afford  
12 telephone service is typically measured through telephone penetration rates, and percentages of  
13 income spent on telephones.

14  
15 **Q. Can you relate your discussion of the goal of universal service more specifically to the**  
16 **investigation of switched access charges that has been merged into this proceeding?**

17 A. Yes. These issues are intimately connected. Switched access service is an important source of  
18 revenues that has historically been used to help pay for the costs of providing Universal Service.  
19 If these rates are greatly reduced, as some parties are advocating, there will be increased  
20 pressure to replace this revenue stream with an alternative source of funding, such as higher  
21 local exchange rates. This type of "rate rebalancing," as it has been called, may endanger the  
22 universal service goal, particularly if it is implemented in an extreme manner.

1     **Q.     Can policy decisions regarding access charges have an effect on universal service?**

2     A.     Yes, particularly to the extent access rate reductions are offset by increases in the fees paid by  
3           local exchange customers. It is difficult, if not impossible, to separate concerns about the level  
4           of access charge from concerns about universal service support, despite the fact that these  
5           issues are often dealt with in separate proceedings. The FCC recognized this linkage in its  
6           Access Charge Reform Order:

7  
8                     [T]hrough this First Report and Order in our access reform docket and  
9                     our Universal Service Order, we set in place rules that will identify and  
10                    convert existing federal universal service support in the interstate high  
11                    cost fund, the dial equipment minutes (DEM) weighting program, Long  
12                    Term Support, Lifeline, Link-up, and interstate access charges to  
13                    explicit federal universal service support mechanisms. [ ¶ 5]  
14

15                   Care must be exercised to ensure that the intrastate mechanisms used to maintain  
16                   support for affordable local rates are sustainable in the long run, achieve their intended purpose,  
17                   and do not unduly distort the market. In this regard, the support mechanisms which help  
18                   maintain affordable rates in high cost rural areas are of particular importance. One way to  
19                   reduce market distortions and ensure long term sustainability is to use support mechanisms  
20                   which are explicit and carefully focused. Thus, for example, implicit support embodied in the  
21                   existing access charges might be replaced with a more explicit form of support provided  
22                   through an expanded version of the Arizona Universal Service Fund.

23                   The Commission is responsible for ensuring that intrastate support mechanisms comply  
24                   with the requirements of the 1996 Telecom Act, including the requirement that the services

1           which are vital to the universal service goal are not burdened with an excessive share of the  
2           joint and common costs of the network:

3  
4           SUBSIDY OF COMPETITIVE SERVICES PROHIBITED- A  
5           telecommunications carrier may not use services that are not  
6           competitive to subsidize services that are subject to competition. The  
7           Commission, with respect to interstate services, and the States, with  
8           respect to intrastate services, shall establish any necessary cost  
9           allocation rules, accounting safeguards, and guidelines to ensure that  
10          services included in the definition of universal service bear no more than  
11          a reasonable share of the joint and common costs of facilities used to  
12          provide those services. [Section 254(k).]  
13

14           In determining the scope of this provision, the FCC concluded that this provision of the  
15          1996 Telecom Act protects not only basic local exchange service but also the ability to access  
16          long distance carriers. However, it does not protect toll services provided by those carriers. As  
17          the FCC points out, this provision does not prevent universal service support for access:

18  
19          Regarding GCI's argument that interexchange service should not be  
20          supported because it is a competitive service, we emphasize that  
21          universal service support will be available for access to interexchange  
22          service, but not for the interexchange or toll service. [note omitted] We  
23          find that the record does not support including toll service among the  
24          services designated for support, although, as discussed in section V  
25          below, we find that the extent to which rural consumers must place toll  
26          calls to reach essential services should be considered when assessing  
27          affordability. Nevertheless, universal service should not be limited only  
28          to "non-competitive" services. One of the fundamental purposes of  
29          universal service is to ensure that rates are affordable regardless of  
30          whether rates are set by regulatory action or through the competitive  
31          marketplace. GCI's argument implies that, if there were multiple  
32          carriers competing to provide, for example, basic dialtone service at  
33          \$1000 per month, there could be no universal service support because

1           the price was set through competition. Such a result would be  
2           inconsistent with Congress's intentions to preserve and advance  
3           universal service in adopting section 254. We note that section 254(k),  
4           which forbids telecommunications carriers from using services that are  
5           not competitive to subsidize competitive services, is not inconsistent  
6           with our conclusion that it is permissible to support competitive  
7           services. [note omitted] [Access Charge Reform Order, ¶ 77]  
8

9           There are undoubtedly a variety of different ways the Commission can ensure  
10          compliance with this provision of the 1996 Telecom Act. Where doubt exists concerning the  
11          best policy to adopt, or the most appropriate distribution of the burden of joint and common  
12          costs, it is clear that priority must be given to ensuring that universal service is protected—even if  
13          that results in long distance toll rates which are higher than would otherwise be desired. Stated  
14          another way, the Commission will undoubtedly receive conflicting advice in this proceeding  
15          concerning the most appropriate way of spreading the burden of joint and common costs  
16          between basic local exchange service and long distance toll services. In evaluating this  
17          conflicting advice, it would be appropriate to err in the direction of ensuring that the "price of  
18          entry" onto the telephone network remains at attractively low levels—thereby helping to maintain  
19          very high penetration rates. That is not to say that the Commission should be unwilling to  
20          deviate from the status quo, or that it should refuse to consider any reductions to access  
21          charges for fear of the consequences. However, the Commission should place a very high  
22          burden of proof on parties that are urging extreme changes to cost recovery patterns which  
23          have proven so successful for so many years.  
24  
25

*Efficiency and Subsidies*

**Q. It is sometimes argued that, because rates are far in excess of economic costs, reductions in access rates can enhance economic efficiency. Can you please respond?**

**A.** Yes. Economic theory suggests that allocative efficiency is most readily achieved when prices are set equal to marginal cost, assuming this can be achieved while still allowing the firm an opportunity to recover its total costs. In an industry where economies of scale and scope are pervasive, pricing at marginal cost may not allow the firm to recover its total costs, and thus some mark-up above marginal cost will generally be necessary to ensure the long run viability of the firm. While there is certainly some merit to marginal cost pricing, there are also problems with using this logic as a basis for lowering access rates—particularly if this is done at the expense of higher local rates.

It would not be in the public interest to adopt proposals that would shift a large share of the revenue burden from toll and access to residential basic exchange services, if this would risk the universal service objective. Some may argue that such a shift will encourage efficiency, by bringing the toll and access rates closer to marginal cost. But to determine if such a shift would truly result in a net gain in efficiency, the Commission would also need to consider any offsetting efficiency losses that would result in the local market, where prices would be increased farther above marginal cost. As well, in evaluating questions of efficiency, it is important to take into consideration the phenomena of network externalities, which suggests that society greatly benefits from pricing policies which encourage high network participation rates.



1     **Q.     The debate over economic efficiency is generally couched in terms of cost recovery.**  
2             **Can you briefly explain the types of costs which are currently recovered through**  
3             **access rates?**

4     A.     Yes. Switched access rates have been designed to recover the costs of both the traffic-sensitive  
5             (TS) and non-traffic-sensitive (NTS) functions performed by the LEC in processing IXC calls.  
6             The TS costs are those that vary depending upon the usage placed over the network (e.g., the  
7             portion of the switching equipment which varies in size and cost, depending upon call volumes).  
8             In comparison, NTS costs are those costs that do not tend to increase as the number of calls  
9             placed over the network increases (e.g. the cost of ordinary copper loops is largely fixed,  
10            regardless of the volume of traffic carried by the loop).

11           Most of the NTS costs have another important characteristic: they are joint or common  
12           costs which are not only necessary for the provision of intrastate switched access service, but  
13           also are necessary for the provision of interstate switched access, local exchange and custom  
14           calling services. Common costs are incurred when production processes yield two or more  
15           outputs. Joint costs are a specific type of common cost. The classic definition specifies that joint  
16           costs are incurred when production processes yield two or more outputs in fixed proportions.  
17           More intuitively, joint costs arise in situations where there are production factors that, once  
18           acquired for use in producing one good, are costlessly available for use in the production of  
19           others. Thus, for example, cattle feed that is acquired for use in producing hamburgers is  
20           costlessly available for use in producing leather shoes.

21           Despite any contrary claims that might be made by other parties to this proceeding, the  
22           local loop fits the definition of a joint cost because, except when congestion is present, there is

1 no trade-off between the joint uses of the loop. If an access line is acquired for purposes of  
2 placing local calls, it is costlessly available for use in placing long distance calls, as well. When  
3 an additional access line is installed, it simultaneously increases the intermediate output (access)  
4 available to both toll and local markets (as well as the market for other services, such as custom  
5 calling). Even if a line is intended strictly for local calls, it can also be used to place and receive  
6 toll calls, and vice versa. Accordingly, local loops are analogous to cattle feed in the production  
7 of steaks and leather coats. Even if feed is strictly intended to increase the amount of available  
8 beef, it concurrently increases the amount of hides which are available.

9 To be more precise, one can say that the access line connecting a residence or business  
10 to the LEC's central office yields at least two joint products: access to customers within the  
11 same locality (local access) and access to customers within other cities (toll access). Since the  
12 latter form of access is provided via toll carriers, one can think of the access line as providing  
13 access to the local and toll networks. Of course, since communication is generally two-way, we  
14 can also say that at least two other joint products are also provided: access to the customer  
15 installing the line is provided to other customers within the same locality, and access is provided  
16 to toll carriers and to their customers who have a potential interest in talking with the business  
17 or household that installed the line.

18 To assign the entire amount of these joint costs to local exchange service is not  
19 appropriate, and the resulting total cannot meaningfully be arrayed beside the revenues derived  
20 from basic local exchange service. The LECs have many revenue sources which help cover  
21 these joint costs, including toll, switched access, and custom calling. Carriers have long relied  
22 upon all of these different revenue sources in order to pay their loop costs. The loop facilities

1           used in providing local exchange service are also required for (and used by) other services that  
2           local carriers provide, including interstate switched access, intrastate switched access, intrastate  
3           toll, custom calling, and Caller ID service. The poles, cable, drop wire, line card, and channel  
4           connection are equally required for the provision of these other services, and there is no logical  
5           reason to impose the entirety of these costs onto just one of the services benefitting from them.

6           Generally, when a customer is connected to the public switched network, that  
7           customer is provided with access to the other lines situated within the same city, but access is  
8           simultaneously provided to the toll carriers with points of presence in that city; and via their  
9           facilities, access is provided to millions of lines located in hundreds of other cities around the  
10          state and country. It makes no economic sense to impose the entire cost of the access line, as  
11          part of the price of local service, on the particular end user who requests installation of the line.  
12          Rather, it is appropriate to recover the cost from all of the beneficiaries of that line--including  
13          the other local customers in that city and the toll carriers that also benefit from the new line,  
14          whether directly or indirectly.

15  
16       **Q.    You have distinguished between NTS and TS costs, and explained the important**  
17       **concept of joint and common costs. Can you briefly discuss the concept of "economic**  
18       **costs"?**

19       **A.    Many of the parties in this proceeding will agree that prices ought to be based on economic**  
20       costs. Most state commissions have moved away from embedded cost allocation approaches,  
21       and have placed increased reliance upon economic or incremental costing methods instead.  
22       While embedded costs--the accountant's measure of cost--are quite practical, readily available,

1           and fairly consistent from firm to firm, the economist's idea of cost is more useful in analyzing  
2           the critical decisions made by management and government.

3  
4       **Q.    Are there different types of economic cost?**

5       A.    Yes. The form of economic cost that is, at present, perhaps the most widely advocated is  
6           TSLRIC, which stands for total service long run incremental cost. TSLRIC is defined as a  
7           firm's long-run total cost of producing all its goods and services except the service in question,  
8           subtracted from the firm's long-run total cost of producing all its goods and services including  
9           the service in question. In effect, it measures the difference between producing a service and  
10          not producing it.

11                 However, TSLRIC is by no means the only relevant type of economic cost. Marginal  
12           cost, for example, is of great importance in the economic literature, among other reasons  
13           because it is of vital importance in understanding pricing behavior by unregulated firms and in  
14           evaluating the extent to which economic efficiency is being achieved in a particular situation.

15  
16       **Q.    Can you briefly elaborate on the TSLRIC concept, and explain how it relates to the**  
17       **concept of joint and common costs?**

18       A.    Yes. An appropriately prepared TSLRIC study will almost invariably show a very low level of  
19           costs—typically the cost results are a small fraction of existing rate levels. For instance, a  
20           TSLRIC study for call waiting service will typically show costs that are at most a few pennies a  
21           month, primarily related to the cost of billing and collection. In contrast, the service is typically  
22           priced at a far higher level—typically \$5 or more per month. There are many factors contributing

1 to the gap between current rates and TSLRIC, including the benefits of changing technology  
2 and increased economies of scale, which have improved since rates were initially established.  
3 However, the most important factor explaining the gap between TSLRIC and current rates is  
4 the manner in which joint and common costs are treated in properly developed TSLRIC  
5 calculations. Where network elements are required for multiple telecom services, the cost of  
6 these elements will generally not be reflected in the TSLRIC calculations for any single service.  
7 When properly developed, TSLRIC studies will exclude joint costs. This follows directly from  
8 the TSLRIC definition, which focuses attention entirely on costs which increase or decrease  
9 with the presence or absence of the specific service being studied.

10 A large gap between TSLRIC and price is typical for most telecom services. For  
11 instance, when the TSLRIC concept is applied to a service like Call Waiting, the estimated cost  
12 is likely to be just a few pennies per month. Similarly, when the TSLRIC concept is applied to  
13 switched access, the same pattern exists: the TSLRIC amount is a small fraction of the  
14 established price.

15 Although TSLRIC calculations for individual services do not include the full amount of  
16 joint and common (shared) costs that are incurred by the firm, this does not mean these costs  
17 are not recovered from customers. To the contrary, both regulated and unregulated firms  
18 recover their joint and common costs through the rates they charge for their products and  
19 services. In unregulated markets this is accomplished by setting rates which reflect demand  
20 conditions—services with strong demand are priced far above TSLRIC in order to ensure  
21 recovery of the firm's total costs.

1 Under competitive conditions, an efficient firm has an opportunity in the long run to  
2 recover its total costs, including its joint and common costs. The extent to which the joint and  
3 common costs are recovered through the prices charged for particular services, or recovered  
4 from particular groups of consumers will not be uniform. In unregulated markets, the pattern of  
5 cost recovery will be heavily influenced by demand conditions, including relative levels of  
6 perceived value, the extent to which close substitutes exist for particular products or services,  
7 and the price of those alternatives.

8 In regulated markets total cost recovery is also achieved, but the specific pricing pattern  
9 may differ. Whether by allowing a substantial mark-up above TSLRIC, by setting prices on the  
10 basis of cost allocation procedures, or by using some other procedure to reconcile rates with  
11 the firm's overall revenue needs, regulators have historically given carriers an opportunity to  
12 recover their joint and common costs. While the pattern of recovery may differ, the overall  
13 result is similar to that achieved under competition: joint and common costs are typically  
14 recovered from the array of services that require or benefit from these costs.

15  
16 **Q. Have you prepared any comparisons of revenues and costs that may be useful in**  
17 **better understanding these issues?**

18 A. Yes. I've prepared three analyses; they differ primarily in with regard to their treatment of joint  
19 and common costs. I define these terms in Appendix B and discuss their significance in  
20 Appendix C.

21 The first analysis follows a "pure" TSLRIC approach. I define TSLRIC in Appendix B.  
22 This "pure" analysis, summarized on Schedule 1, excludes joint costs. To the extent direct

1 revenues exceed direct costs, this analysis measures the surplus that is available as a  
2 contribution to joint and common costs. This is generally my preferred approach, because it  
3 provides the most accurate picture of whether the current rates for basic local exchange service  
4 exceed the incremental cost of providing this service, and it indicates whether or not this service  
5 is "subsidized" by other services.

6  
7 **Q. When is a service subsidized?**

8 A. While the term "subsidy" is often used loosely to describe any situation in which a service  
9 appears to be priced below some measure of cost, under standard economic terminology, a  
10 service is said to be subsidized only if its price is below a relevant measure of marginal or  
11 incremental cost. When speaking of whether or not a particular item is subsidized (e.g., local  
12 service purchased by residential customers who could not afford to pay a higher price, and thus  
13 would otherwise not be on the system), the "Incremental Service Incremental Cost" is the  
14 relevant test for a subsidy.

15 When analyzing whether or not an entire category of service is being subsidized in  
16 totality (e.g., basic local service as a whole), the Total Service Incremental Cost is generally  
17 the appropriate test for a subsidy. The analysis should assume that all other services (e.g. toll  
18 and custom calling) continue to be offered, and thus the relevant incremental cost excludes  
19 those costs which would be incurred in providing these other services even if the service in  
20 question (e.g., basic local service) were not provided. Most often, this type of analysis is  
21 performed on a long run basis, and thus is described as a Total Service Long Run Incremental  
22 Cost (TSLRIC) analysis.

1     **Q.     Can a properly designed TSLRIC study determine the presences of subsidies?**

2     A.     Yes. The key, however, is that it be properly designed. Having been active in utility regulation  
3           for more than 25 years, I have been a part of numerous proceedings in which subsidy claims  
4           are made. I have found that where differences of opinion exist concerning the presence or  
5           absence of cross subsidies, the debate almost always centers around a single major point of  
6           contention—the appropriate interpretation and treatment of joint and common costs.

7  
8     **Q.     Can you briefly describe the other two revenue-cost comparisons you employed to**  
9           **evaluate the pattern of rate increases Qwest would likely seek if it were free to do so?**

10    A.     Yes. The second analysis I prepared uses an "allocation" approach. This analysis, summarized  
11           on Schedule 2, includes an allocated share of joint costs. The results I am presenting use a flat  
12           percentage allocator of 50% of the loop and port costs to basic service. This approach is  
13           consistent with the historic practice of allocating 25% of these costs to the federal jurisdiction; it  
14           allocates another 25% to intraLATA toll, intrastate interLATA switched access, custom calling,  
15           and ancillary services.

16           The third analysis is a "multiple service" or "total customer" approach. This analysis,  
17           shown on Schedule 3, includes 100% of the joint costs, together with all of the revenues and  
18           direct costs of the entire family of switched services provided to a typical customer.

19  
20    **Q.     Where did you obtain the revenue and cost data used in these analyses?**

21    A.     I obtained revenue and rate data from the FCC's ARMIS database and Qwest's Exchange  
22           and Network Services Price Cap Tariff. I obtained cost data from Qwest witness Million's



workpapers supporting the Qwest TSLRIC cost studies.

**Q. How did you arrive at the revenue estimates in your analysis?**

**A.** In order to match revenues to costs which are provided at the UNE zone level, I calculated a weighted average of residence and business revenues, based upon the relative numbers of lines in the IBRA, Zone 1, and Zone 2 retail zones. Assuming a Residence rate (1FR) of \$13.18, and exchange zone increments of \$1.00 in zone 1, and \$3.00 in Zone 2, I've estimated that local exchange revenue per line averages about \$13.41 for residence customers. Assuming a Business rate (1FB) of \$30.40, exchange zone increments of \$1.00 in zone 1, and \$3.00 in Zone 2, the weighted average Business revenue is \$30.63. No revenues from ancillary services are considered in this part of the analysis. However, revenues are included from the FCC's subscriber line charge (since this is a mandatory charge paid by basic exchange customers). Adding \$6.50 (residence SLC) and \$6.53 (Business SLC) yields revenues of \$19.91 and \$37.16, respectively.

**Q. Would you begin by summarizing the results of your revenue-cost comparisons using a "pure" TSLRIC analysis?**

**A.** Yes. Set against these revenues are the direct costs of providing basic local exchange service, including an allowance for common costs.

As shown on Schedule 1, the revenues from basic local service consistently exceed the incremental direct cost of providing this service, leaving a substantial margin of contribution towards joint and common costs (which aren't reflected in these calculations). This pattern of

1 full coverage of incremental costs is true for both business and residence customers, regardless  
2 of the exchange classification. However, the contribution margin is larger for business customers  
3 than for residential customers, because the business local exchange rates are much higher. For  
4 customers in Zone 1, the average contribution is **\*\*Proprietary Proprietary\*\*** or  
5 **\*\*Proprietary Proprietary\*\*** for residence customers and **\*\*Proprietary**  
6 **Proprietary\*\*** or **\*\*Proprietary Proprietary\*\*** for business customers.<sup>1</sup> While the  
7 percentage difference in profit margin or contribution levels are relatively moderate, the  
8 difference in absolute dollars is quite substantial. Clearly, if Qwest were free to increase  
9 residential rates to levels approaching current business rates, it would be able to further increase  
10 its overall earnings.

11 For easy reference, I have summarized the revenue, cost and contribution estimates for  
12 the pure TSLRIC approach in Table 1 below. As shown, all categories of local exchange  
13 customers pay rates which substantially exceed the corresponding direct costs, and generate a  
14 substantial contribution toward loop and port costs, as well as other shared costs. Because the  
15 direct costs and the corresponding rates vary across exchange classifications, the magnitude of  
16 these contributions varies depending upon the particular classification.

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<sup>1</sup> Proprietary information in this sentence, and all proprietary information in my testimony hereforward, is included in my Exhibit 1 attached to this testimony, and redacted from the public version.

**Table 1**  
**Pure TSLRIC Approach**  
**\*\*Proprietary\*\***

Customer Category	Local Direct Revenues	Local Direct Costs	Contribution	Contribution Percent
Residential				
Zone 1				
Zone 2				
Zone 3				
Statewide				
Business				
Zone 1				
Zone 2				
Zone 3				
Statewide				

**Q. What conclusions have you reached in light of this analysis?**

A. While residential customers more than adequately cover their incremental direct costs, business customers are providing larger gross profit margins. To the extent the Company attempts to use increased pricing freedom to maximize profits, it may attempt to generate similarly high profit margins from its residential customers.

Under the terms of the proposed Plan, the Commission will receive "notice" of revenue neutral rate changes for Basket 1 services, but it cannot reject those changes. [Proposed Plan, 2.b.i.] Non-revenue neutral price increases can also be proposed, subject to Commission approval. [Id., 2.b.iii.] However, no criteria are provided in the proposed Plan to indicate

1 under what circumstances Commission approval would be appropriate or required. With  
2 regard to Basket 2 and 3 services, the existing rules (A.A.C. R14-2-1109) are the only  
3 constraint on the Company's ability to modify rates under the proposed Plan. [Id., 3.e. and  
4 4.c.] With regard to services provided in competitive zones, the only constraints will be the  
5 prohibitions against exceeding "maximum price levels" pursuant to A.A.C. R14-2-1110. [Id.,  
6 Competitive Zones, Subpart a.]

7  
8 **Q. Let's turn to your second approach to shared costs. Traditionally, many cost studies**  
9 **prepared for regulatory purposes include an allocation of shared costs. Have you**  
10 **provided the Commission with a set of cost estimates which includes a reasonable**  
11 **allocation of joint and common costs?**

12 **A.** Yes. It has been my experience that some regulatory commissions are not comfortable relying  
13 exclusively upon a "pure" TSLRIC approach, or they want to also have the opportunity to look  
14 at studies in which a reasonable share of the loop costs are allocated to basic local exchange  
15 service, similar to the manner in which costs are allocated for jurisdictional purposes.

16 I am providing an example of an approach which allocates a reasonable share of joint  
17 and common costs to local exchange service, to provide further insight into the significance of  
18 these costs. Under an allocation approach, the pivotal question becomes one of the appropriate  
19 share of shared costs to be allocated to the service in question. The results I am presenting use  
20 a flat percentage allocator of 50% of the loop and port costs to basic service. This approach is  
21 consistent with the historic practice of allocating 25% of these costs to the federal jurisdiction; it  
22 allocates another 25% to intraLATA toll, intrastate interLATA switched access, custom calling,

1           and ancillary services.

2  
3       **Q.    Would you please provide a further explanation of your use of a 50% allocation**  
4       **factor?**

5       A.    Yes. Although loop and port costs are required for the provision of local exchange, custom  
6       calling, switched access, and toll service, there is no universally accepted method of allocating  
7       these costs. Differences in the allocation percentage or method can result in very significant  
8       differences in the cost study results. That is one reason why I prefer a "pure" TSLRIC  
9       approach, which doesn't allocate shared costs to individual services. To the extent the  
10       Commission wants to review a basic local exchange cost study that includes a share of joint  
11       costs, I believe the Commission will best be served by relying upon a relatively simple allocation  
12       approach that is reasonably stable. A uniform 50% factor meets both criteria, although it is not  
13       the only reasonable factor that could be used.

14               This 50% factor is reasonably similar to the percentage allocation that would be  
15       assigned to basic local service under some other, more sophisticated allocation approaches,  
16       such as revenue-based methods, usage-based methods, and direct cost-based methods. For  
17       example, the Washington Commission in Docket No. U-85-23 assigned loop costs 25% to  
18       interstate toll, 16.95% to intrastate toll, and 58.05% to local services (including custom calling  
19       and other optional services). [See reference in WUTC Order in Docket No. UT-950200, p.  
20       79.]

21               Revenue-based allocations assign shares of joint costs based upon the services'  
22       percentages of total revenues. For example, if basic service accounts for 45% of total

1 revenues, it might be allocated 45% of the joint costs. Usage-based allocations assign shares of  
2 joint costs by relative minutes of use, perhaps weighted in some way to distinguish toll from  
3 local and/or peak from off-peak, etc. Finally, the joint costs of switched services could be  
4 allocated in proportion to the direct costs of these services.

5  
6 **Q. Would you please explain your calculations assuming 50% of the joint costs are**  
7 **allocated to basic local exchange?**

8 **A.** Yes. In this analysis, shown on Schedule 2, the revenues are derived entirely from the  
9 components of basic local service--the same as those reflected in the pure TSLRIC approach.  
10 Set against these revenues are the direct costs of providing this level of service and 50% of the  
11 joint costs--primarily the local loop and switch port. I have also included an allowance for  
12 common costs equal to **\*\*Proprietary Proprietary\*\*** of the aforementioned direct and  
13 joint costs.

14 An average residence customer will provide Qwest with \$19.91 in basic local service  
15 revenues per month. From this amount, direct costs of **\*\*Proprietary Proprietary\*\*** are  
16 subtracted, along with joint costs of **\*\*Proprietary Proprietary\*\***, and common costs  
17 of **\*\*Proprietary Proprietary\*\*** (assuming the customer is in UNE Zone 2). This leaves  
18 a surplus of **\*\*Proprietary Proprietary\*\***. Stated another way, for the typical  
19 customer in UNE Zone 2, the direct, joint and common costs, total **\*\*Proprietary**  
20 **Proprietary\*\*** per month. This total is well below the current rate paid by most residential  
21 customers in this rate group, which is \$19.91. Thus, the typical residence customer in UNE  
22 Zone 2 is not "subsidized" (as sometimes alleged) but instead provides a revenue surplus of

about **\*\*Proprietary** **Proprietary\*\*** or **\*\*Proprietary** **Proprietary\*\***.

Although residential customers aren't subsidized, they don't provide as substantial a contribution as business customers. Business customers in UNE Zone 2 generate revenues of \$37.16; this leaves a much larger surplus of **\*\*Proprietary** **Proprietary\*\*** or **\*\*Proprietary** **Proprietary\*\***.

**Q. What conclusions have you drawn from this "allocated cost" comparison?**

**A.** This data confirms the conclusions I reached using a "pure" TSLRIC approach. Business customers provide larger profit margins than residential customers. This analysis also confirms that if the Company is given greater freedom to raise residential rates, it may choose to do so. Furthermore, margins are smaller in the low density, higher cost parts of the state. Hence, there is reason to anticipate that although all residential customers may be forced to pay more for local service, the impact of increased pricing freedom is likely to be more severe in rural areas.

Given the high costs incurred in serving the lowest density, most rural parts of the state, as a profit-maximizing firm, the logical response to increased pricing freedom would be for Qwest to increase rates in these areas to generate profit margins more like those it earns in urban markets (just as it would be logical for Qwest to attempt to increase residential profit margins to levels comparable to those earned on its business services).

If the Company were allowed to increase residential rates to provide margins similar to those currently provided by business rates, the impact on rural residential customers would be particularly severe—their rates could potentially be increased by \$15.00 or more per month. However, the standards for that review are not clear, and it is not readily apparent what

1 discretion the Commission will have to reject rate increase proposals. If the Commission  
2 approves the proposed Plan, will the Commission be free to reject rate increases if they will  
3 preclude customers from gaining the benefit of industry-wide improvements in productivity or  
4 reductions in input costs? Will the Commission be free to reject rate increases that might appear  
5 to be merited when viewed in isolation, simply because they could result in rate shock?

6 Answers to these and other important questions are far from clear. The only thing that seems  
7 clear is that the Commission will have some "approval" powers in the event of a non-revenue  
8 neutral price increase.

9  
10 **Q. You have now discussed both the "pure" TSLRIC approach and the cost allocation**  
11 **approach. Could you now explain your third approach, in which you consider 100% of**  
12 **the loop and port costs?**

13 **A.** Yes. Since shared costs are such a substantial fraction of a local exchange carrier's overall  
14 costs, it is useful to analyze these costs from a variety of different perspectives. Another useful  
15 approach focuses on customer groups, rather than specific services. Under this approach, the  
16 analyst looks at an incremental group of customers, and asks the question: What incremental  
17 revenues will the firm generate if it serves this group of customers? These incremental revenues  
18 are then matched with the incremental costs that are required to serve that group of customers.

19 For any one customer, the incremental revenue level may vary widely. If the customer  
20 never places or receives a long distance call, and never uses any of the optional services that  
21 are offered by the firm, the incremental revenues may amount to little more than the revenues  
22 from basic local exchange service and the FCC's end user fee. Even in this extreme case,



1           however, some other incremental revenues will arise.

2                     For example, consider directory publishing revenues. Qwest and other incumbent local  
3           exchange carriers earn very substantial revenues (and profits) from yellow page advertising.  
4           These rates vary directly with the number of subscribers included in (and receiving) the  
5           directory. As additional customers are added to the network, directory publishing revenues and  
6           profits will expand. These incremental revenues can appropriately be considered in evaluating  
7           the extent to which Qwest can profitably serve customers at current rates.

8                     The situation is analogous to that of many publications. A magazine evaluating its  
9           subscription efforts should consider not just the direct revenues generated by new subscriptions,  
10          but also all the incremental revenues associated with those subscriptions. New revenues will  
11          come from the additional ads sold as the circulation base expands, from the higher advertising  
12          rates chargeable as the number of subscribers increases, and from the sale to new subscribers  
13          of books, videos, or other ancillary products. In the same way, a local exchange carrier can  
14          anticipate ancillary revenue from the sale of directory advertising and boldfaced white page  
15          listings, which tend to increase as the number of customers on the network increases and the  
16          directory becomes longer, even if the customers in question don't choose to purchase any  
17          optional services.

18                    Similarly, the volume of switched access minutes sold to interexchange carriers will  
19          increase with the number of subscribers, since incremental customers place more outgoing toll  
20          calls, and they also receive long distance calls which generates terminating access revenues for  
21          the Company.

22                    Moreover, many customers, having decided to purchase basic telephone service, will

1           also opt to purchase discretionary services. Call waiting service is perhaps the most popular  
2           example, but there are numerous optional services that generate revenues for Qwest as a result  
3           of the fact that it provides basic local exchange service. Increases or decreases in the number of  
4           basic service customers bring a corresponding increase or decrease in these ancillary revenues.  
5           Hence, an evaluation of how profitable it is for Qwest to serve residence customers at current  
6           rates should appropriately give consideration to these ancillary revenue sources.

7           I have not attempted to analyze all of these ancillary revenue streams in complete detail,  
8           nor have I analyzed them on a exchange classification-specific basis. The expected revenue  
9           stream may vary somewhat, depending upon the demographic and other characteristics of each  
10          geographic area, and the group of customers being studied. While I recognize this diversity  
11          exists, the data needed to analyze these patterns in detail were not readily available, nor would I  
12          expect the results to differ greatly from the simplified approach I have followed. I estimated a  
13          conservative level of revenues (and corresponding contribution to joint and common costs) that  
14          can reasonably be anticipated when typical customers are added to the network.

15  
16       **Q. Not all customers generate the same level of ancillary revenues. Have you developed**  
17       **an analysis using this third approach which allows the Commission to see the impact of**  
18       **variations in the level of ancillary revenues?**

19       **A.** Yes. I developed multiple examples of this approach, thereby considering variations in the  
20       revenues and costs Qwest encounters in serving different types of consumers. For instance,  
21       Qwest does not gain the same amount of revenues nor incur the same level of costs in serving a  
22       customer who uses very little toll and does not subscribe to any custom calling features as it

1 experiences when serving a customer who uses a considerable amount of toll and many custom  
2 calling features. The matrix-based approach that I have used adds considerable detail to the  
3 contribution calculations, providing a more comprehensive view of the overall situation.

4 When a long distance call is completed by AT&T, MCI or another carrier, Qwest  
5 profits from "switched access charges" which it receives as compensation for originating and/or  
6 terminating the call. Switched access and long distance toll revenues are important aspects of  
7 the profit picture for any provider of local telephone service, but they vary depending upon  
8 usage levels. Accordingly, I consider the revenues that Qwest gains from three types of toll  
9 customer—one who uses very little toll, one who uses a moderate amount, and one who place  
10 toll calls quite frequently.

11 Many customers also enhance their local telephone service with one or more optional  
12 features, including call waiting, call forwarding, and Caller ID. The popularity of these types of  
13 features has been growing in recent years, creating an ever increasing stream of revenues for  
14 local exchange carriers. Today, the typical residential customer pays for at least one such  
15 feature and many pay for two or more. Since the revenues generated by custom calling and  
16 other premium features vary widely, we will consider five examples. Our first example is a  
17 household that purchases none of the available enhancements. Our second and third examples  
18 are customers that pay for either Call Waiting or Caller ID, respectively. Our fourth example is  
19 a customer that purchases both of these popular features and 8-number Speed Calling. Our fifth  
20 example is a customer that opts for these three as well as Call Forwarding and Three-Way  
21 Calling. The effect of these feature revenues in combination with the other revenue sources is  
22 illustrated for a customer in UNE Zone 2 in Table 2.

**Table 2**  
**Residential Revenues Including Features**

Feature Revenues	Revenues from Low Toll User	Revenues from Mid Toll User	Revenues from High Toll User
Example 1: \$ 0.00	\$ 24.85	\$ 28.05	\$ 34.43
Example 2: \$ 2.50	27.35	30.55	36.93
Example 3: \$ 5.00	29.85	33.05	39.43
Example 4: \$ 9.25	34.10	37.30	43.68
Example 5: \$12.05	36.90	40.10	46.48

Clearly, the rate for basic local service alone does not begin to describe how much most consumers actually contribute to Qwest's revenues each month, nor does it provide any indication of the revenue levels which a competitive carrier can potentially capture. It is necessary to consider all of these revenue sources in order to meaningfully evaluate the extent to which residential customers are currently profitable to serve, or the prospects for competition in Arizona residential markets. Qwest doesn't rely exclusively on its basic monthly rate to recover its costs, nor do any of its competitors, which is one reason why the third approach (focusing on typical customers, rather than individual services in isolation) is helpful in evaluating the subsidy question.

**Q. Would you please describe how revenues and costs are analyzed in this third approach?**

**A. Yes. The key difference between this approach and the others is that it looks at the entire set of**

1 revenues which a carrier generates when serving a typical customer. I have depicted this  
2 revenue-cost comparison in my Schedule 3. For clarity, I have included the ancillary revenue  
3 sources. An estimate of the direct costs of providing these ancillary services, is included in the  
4 column labeled "Other Direct." These costs vary according to the amount of toll and access  
5 service that customers use each month as well as the number of custom calling and other  
6 optional services they subscribe to. As shown on page 1 of Schedule 3, in serving residential  
7 customers that use a small amount of toll and only subscribe to one custom calling feature  
8 (Caller ID), I have estimated Qwest would incur "other direct" costs of approximately  
9 **\*\*Proprietary Proprietary\*\***. As shown on page 3 of Schedule 3, the analogous  
10 costs incurred in providing service to residential customer who uses a large amount of toll and  
11 subscribes to three ancillary services (Caller ID and Call Waiting and Call Forwarding) is  
12 **\*\*Proprietary Proprietary\*\*** per month.

13 By including these ancillary revenues and costs, along with the costs and revenues  
14 associated with basic local service, this third approach provides a fairly comprehensive picture  
15 of the various revenues and costs that a carrier can anticipate as it expands its network to  
16 include various groups of customers.

17 The column labeled "Contribution or Subsidy" shows the extent to which these  
18 residential customers can be expected to generate incremental revenues sufficient to cover their  
19 incremental costs, including all of the joint costs of the loops that connect them to the network,  
20 and an allowance of **\*\*Proprietary Proprietary\*\*** towards common costs. To the  
21 extent a positive figure is shown in the final column, the customer is generating an additional  
22 contribution towards the firm's other common costs. I have followed the same approach in

1 developing revenue-cost comparisons for residential customers in all exchange classifications on  
2 each page of Schedule 3.

3 While the gap between revenues and costs varies depending upon toll usage and other  
4 factors, Qwest generates revenues well in excess of its costs when serving most residential  
5 customers. Consider a typical residence in UNE Zone 1 (the most densely populated areas)  
6 that uses moderate amounts of long distance and purchases just one enhanced feature—Call  
7 Waiting. As shown on page 2 of Schedule 3, at Qwest's current rates, this customer generates  
8 an average of **\*\*Proprietary Proprietary\*\*** in revenues per month. In comparison,  
9 the economic cost of serving this residence is just **\*\*Proprietary Proprietary\*\*** per  
10 month. This includes the direct and shared costs of local exchange and all of the ancillary  
11 services. Since the current rates generate revenues in excess of cost, there is no indication that  
12 the typical residential customer is unprofitable to serve, nor is there any indication that the  
13 typical residential customer is "subsidized" by any other category of customers.

14 To the contrary, the evidence suggests that most urban residence customers yield  
15 revenues in excess of the costs of serving them (including 100% of the joint loop costs), as  
16 shown below in Table 3. In today's telecommunications market, most customers use at least a  
17 moderate amount of toll service, and the number of customers who do not subscribe to any  
18 optional features is declining. Hence, the size of this group of relatively unprofitable customers is  
19 probably diminishing over time. Increasingly, customers perceive features like call waiting and  
20 Caller ID to be near-necessities. While there are still exceptions, the average or "typical"  
21 Arizona customer places and receives toll calls, and subscribes to one or more ancillary  
22 services. Thus, it is fair to say that at current rates, Qwest recovers all of its costs and generates

1 excess profits (it earns more than its cost of equity capital) when serving the vast majority of  
2 urban residential customers.

3  
4 **Table 3**  
5 **Matrix of Revenue-cost Comparisons for**  
6 **UNE Zone 1 Residential Mid-Toll Users**  
7 **\*\*Proprietary\*\***  
8

9 Feature Revenues	10 Total Revenue	11 Total Costs	12 Contribution (Subsidy)
13 Example 1: \$ 0.00			
14 Example 2: \$ 2.50			
15 Example 3: \$ 5.00			
16 Example 4: \$ 9.25			
17 Example 5: \$12.05			

18 **Q. Does the fact that most residential customers already generate excess profits suggest**  
19 **there is no reason to be concerned about rate increases if Qwest is given greater**  
20 **pricing freedom?**

21 **A.** No. There is nothing inherent in the logic and incentives facing a profit maximizing firm that  
22 would provide a basis for assuming Qwest will limit its profits to current levels, if it were free  
23 given complete pricing flexibility. If competitive forces aren't strong enough, Qwest might  
24 choose to drastically increase residential rates. In fact, Qwest might conclude that its corporate  
25 interests are better served by achieving higher profit margins in the short term, even if this would  
cause it to suffer some loss of market share over the long term. Furthermore, profit margins are

1 not as strong in rural parts of the state. Hence, Qwest will likely push for substantial increases to  
2 its rural rates, if the pricing rules are sufficiently relaxed.

3  
4 **Q. Some of your data suggests current rates in rural areas are not fully recovering the**  
5 **high cost of serving these areas. Are there methods that could be used to deal with this**  
6 **problem, other than increasing rural rates?**

7 A. Yes. Based upon experience gained in other states, I know that costs can be very high in areas  
8 where population density is low and distances from the wire center are long. The disparate loop  
9 costs in the FCC Model are evidence of this geographic pattern, suggesting that customers in  
10 rural areas are much more costly to serve than customers in Phoenix or Tucson.

11 Historically, regulators have not allowed extreme disparities between urban and rural  
12 rates, regardless of the extent to which costs vary. For example, the high cost of serving rural  
13 areas has been recovered in part by allowing carriers to charge higher for toll and access  
14 services than would otherwise be allowed. In both the federal and state jurisdictions, access  
15 rates have historically been regulated on a uniform average basis; the high costs incurred in rural  
16 areas is one of the reasons why policy makers have historically allowed Qwest to charge so  
17 much for ancillary services like switched access, custom calling and CallerID. Stated another  
18 way, high rural loop costs have translated into relatively high rates for switched access, long  
19 distance toll, and other ancillary services.

20 One can legitimately question whether this historic rate design practice should be  
21 phased out, in favor of more explicit forms of high cost support. However, there is no  
22 justification for completely abandoning the historic pattern of rate uniformity, nor is there any



1 justification for allowing extreme disparities between rural and urban rates.

2 In this regard, it is worth noting that other methods of providing high cost support have  
3 been implemented in some jurisdictions. For instance, the State of Kansas implemented a  
4 competitively neutral, explicit mechanism for high cost support. My firm was privileged to work  
5 with the Kansas Corporation Commission ("KCC") in carrying out this effort. The KCC  
6 initially established the Kansas Universal Service Fund as a "revenue neutral" mechanism which  
7 replaced a portion of the existing access revenues. It later replaced this system with a forward-  
8 looking cost-based mechanism. The KCC recognized that costs per line can vary widely with  
9 density and distance from the central office. Therefore, in order to take these factors into  
10 account, the KCC decided to target support on the highest cost (i.e., least dense, most distant)  
11 areas within each wire center. Wire centers and zones within these wire centers were not given  
12 support unless the relevant costs per line exceeded 125% of the statewide average costs per  
13 line.

14 If the Commission wants to ensure that rural areas (including many of the exchanges  
15 classified as UNE Zone 3) generate revenues which are sufficient to cover the relatively high  
16 cost of serving these areas, this should not be accomplished by giving Qwest the freedom to  
17 drastically increase rural rates. To the contrary, if the Commission is convinced that the existing  
18 system of implicit support is not sustainable or acceptable, it would be more appropriate to  
19 revamp the Arizona universal service fund that would provide an appropriate mechanism for  
20 dealing with these cost disparities.

*Universal Service Mechanism*

**Q. Would you provide a brief description of the AUSF?**

**A.** Yes. The Commission summarized the purpose of the AUSF and the entities that fund it in an order approving AUSF surcharges for 2004.

The AUSF was established to maintain statewide average rates and the availability of basic telephone service to the greatest extent reasonably possible.

One half of the AUSF funding requirement is collected through a surcharge paid by providers of basic local exchange service, wireless service, paging service, and other Commercial Mobile Radio Service providers that interconnect with the public switched network. These entities are known as Category One providers.

The second half of the AUSF funding requirement is collected from providers of intrastate toll service. These entities are known as Category Two providers. [Decision No. 66651, Docket No. RT-00000H-97-0137, December 22, 2003, pp. 1-2]

Arizona Administrative Code section R14-2-1202 outlines how support paid to fund recipients is calculated.

The amount of AUSF support to which a provider of basic local exchange telephone service is eligible for a given AUSF support area shall be based upon the difference between the benchmark rates for basic local exchange telephone service provided by the carrier, and the appropriate cost to provide basic local exchange telephone service as determined by the Commission, net of any universal service support from federal sources. ...

1 For a large local exchange carrier, the AUSF support area shall be  
2 U.S. census block groups, and the appropriate cost of providing basic  
3 local exchange telephone service for purposes of determining AUSF  
4 support shall be the Total Service Long Run Incremental Cost. [A.A.C.  
5 R14-2-1202, Subparts A and D]  
6

7 **Q. What benchmark is used to calculate support under the AUSF?**

8 A. "Benchmark Rates" are defined as:

9  
10 [R]ates approved by the Commission for that provider for basic local exchange  
11 telephone service, plus the Customer Access Line Charge approved by the  
12 Federal Communications Commission. [Id., R14-2-1201]  
13

14 **Q. Are there Arizona carriers that currently receive support from the AUSF?**

15 A. Yes. According to the Commission order just cited, Citizens Telecommunications Company of  
16 the White Mountains, Inc. receives \$769,620 per year from the fund and Midvale Telephone  
17 Exchange, Inc. receives \$71,651 per year. [Decision No. 66651, Docket No. RT-00000H-  
18 97-0137, December 22, 2003, p. 2]  
19

20 **Q. How do Arizona's Category One and Two providers support this funding?**

21 A. For 2004, Category One providers pay \$0.0038 into the fund for each access line they service  
22 and \$0.037998 for each interconnecting trunk line they service. Category Two providers pay  
23 0.0998% of their intrastate toll revenues into the fund. [Id., p. 3]  
24  
25  
26

1     **Q.     Are these surcharges sufficient to cover the amount that Qwest has proposed to draw**  
2     **from the AUSF?**

3     A.     No. These surcharges were established so as to generate sufficient funds to cover *current*  
4     AUSF distributions (those to Citizens and Midvale), and accounted for an October 31, 2003  
5     fund balance of \$754,196.59. [Id., p. 2] They are not adequate to compensate for the high  
6     costs of serving rural residential customers in Qwest's service territory.

7  
8     **Q.     How much has Qwest proposed to draw from the AUSF?**

9     A.     Roughly \$64 million. [Proprietary Million Exhibit TKM-02]

10  
11    **Q.     In Decision No. 66651 that you cited earlier, the National Exchange Carriers**  
12    **Association is described as calculating the surcharge necessary for the AUSF to cover**  
13    **Citizens' and Midvale's funding needs. Has Qwest performed a similar calculation?**

14    A.     Yes. Mr. Teitzel includes a surcharge calculation in his direct testimony. He figures that  
15    Arizona wireline local service carriers would be charged an additional \$0.46 per line served  
16    and Arizona wireless carriers would be charged an additional \$4.58 per interconnection trunk  
17    served. Although he doesn't know the exact number of interconnection trunks required by  
18    wireless carriers to service Arizona customers, consistent with the calculations delineated in the  
19    Arizona Administrative Code, his calculations appear to provide a reasonable order of  
20    magnitude estimate of the size of the surcharges that would be required to support Qwest's  
21    proposal.  
22

1 **Q. Would you please summarize the Qwest AUSF proposal?**

2 A. Yes. Mr. Ziegler provides a succinct description of the Company's proposal.

3  
4 Qwest proposes that the difference between the TSLRIC of basic  
5 residential local exchange service in UNE Zone 2 and the sum of the  
6 1FR rate and FCC Customer Access Line Charge in Zone 2 be  
7 recovered from the AUSF. Similarly, Qwest proposes that the  
8 difference between the TSLRIC of basic residential and business  
9 exchange service and the 1FR or 1FB rate and the FCC Customer  
10 Access Line Charge in UNE Zone 3 be recovered from the AUSF.  
11 [Ziegler Direct, p. 12]  
12

13 **Q. How does Qwest support this proposal?**

14 A. Mr. Shooshan describes a consumer benefit and competitive benefit resulting from the  
15 Company's AUSF proposal.

16  
17 Qwest's proposal to ... seek AUSF support to make up the difference  
18 between current and cost-based rates is beneficial to consumers in the  
19 higher costs areas as they will be relieved of covering the direct costs of  
20 providing service. Instead, those costs will be spread over all of those  
21 paying into the AUSF. Additionally, since AUSF support is portable,  
22 competitors will have greater incentive to offer alternative services to  
23 customers in these high-cost areas where competitors are currently  
24 deterred by the high costs. [Shooshan Direct, pp. 17-18]  
25

26 Mr. Teitzel describes a change to Qwest's pricing structure resulting from the Company's  
27 AUSF proposal.

28  
29 Since residential line local exchange rates in UNE Cost Zone 2 and 3  
30 wire centers are below cost, these rates are currently receiving an  
31 implicit subsidy, which is not sustainable in a competitive marketplace.

1 Supporting residential rates in these wire centers with AUSF funds will  
2 make this subsidy explicit, will protect customers in these areas from  
3 dramatic rate increases and ensure continued affordable service in high  
4 cost areas, and is competitively neutral. ...

5  
6 As discussed in the testimony of Ms. Million, business local exchange  
7 recurring rates in UNE Zone 3 wire centers are below cost. [Teitzel  
8 Direct, pp. 89, 90]  
9

10 **Q. You stated earlier that Qwest links its proposal to draw funds from the AUSF to an**  
11 **analysis of the difference between the Company's TSLRIC costs and its revenues.**  
12 **Are these calculations consistent with your analysis of TSLRIC costs relative to**  
13 **revenues?**

14 **A. No.** Despite using the TSLRIC label, Qwest includes joint costs in its analysis. Furthermore, it  
15 mismatches all of its joint costs with only a portion of the revenues it receives that provide  
16 support for those costs.

17  
18 **Q. Can you elaborate on the Company's analysis of revenues and costs?**

19 **A. Yes.** Mr. Million explains the Company's reasoning:

20  
21 As I explained above, the total cost to provide a retail service includes  
22 the direct cost of the service, the costs that are shared among groups of  
23 services and a contribution to the common overheads of the  
24 corporation. If the AUSF support were calculated using an amount  
25 that recovered less than the total cost to provide the service, then the  
26 shared costs as well as the amount of contribution to common  
27 overheads from basic local exchange telephone service would be borne  
28 entirely by the lines located in Zone 1. Any necessary contribution not  
29 recovered from the Zone 1 lines would have to be recovered from

1 Qwest's other retail services. This would result in an implicit subsidy of  
2 the Zone 2 and 3 business and residential basic exchange customers.  
3 The purpose of a universal service fund is to help maintain affordable  
4 rates in high cost areas and at the same time eliminate implicit subsidies  
5 for high cost service.<sup>1</sup> In addition, it is important to note that Qwest's  
6 CLEC competitors in Zones 2 and 3 pay for unbundled network  
7 elements on the basis of TELRIC rates that include shared and  
8 common costs. As discussed in Mr. Teitzel's testimony, because  
9 AUSF support is portable to qualifying CLECs it is important that the  
10 AUSF surcharge calculation, based on the AUSF funding need, be  
11 sufficient to cover the costs of any qualified provider on a competitively  
12 neutral basis. Therefore, the appropriate cost to use in calculating the  
13 AUSF support amount is Qwest's fully allocated cost. [Million Direct,  
14 pp. 22-23]  
15

16 I don't dispute some of these points. For instance, I agree that all of the costs incurred when a  
17 carrier serves rural customers are potentially relevant. However, I strongly dispute the notion  
18 that total costs should be compared to just a subset of the revenues that result from the decision  
19 to serve these customers. An appropriate matching of revenues and costs is crucial for  
20 meaningful results. If total costs (including joint costs) are to be considered in the analysis, then  
21 total revenues should also be considered, including revenues from toll, access, and features.  
22

23 **Q. You mentioned the use of a benchmark to calculate the level of support provided by a**  
24 **universal service fund. Can you discuss the concept of a benchmark in more detail?**

25 **A.** Yes. A benchmark is useful in identifying high cost areas, and determining the amount of  
26 support to be provided in these areas. It provides a numerical basis for evaluating the extent to  
27 which costs in a particular area are above the "norm," and thus needing support. Typically, the  
28 benchmark is based upon average revenues, or average cost, per line.

1     **Q.     When a revenue benchmark is used, exactly what revenues should be included?**

2     A.     In general, the revenues included in the benchmark should be consistent with the methods used  
3           in calculating the forward-looking economic costs of constructing and operating the network. If  
4           the cost methodology includes the entire cost of the loop and port, then the revenue benchmark  
5           should include revenues from all services that use the loop and port. These are joint or  
6           common costs, which are not, and should not be, borne entirely by any one service which relies  
7           upon them. In addition to revenues from basic local exchange service, these costs are related  
8           to, and supported by, numerous other revenue sources, including interstate switched access,  
9           intrastate switched access, intrastate toll, custom calling, Caller ID and directory publishing.

10           It is illogical to compare the entire amount of loop and port costs with the revenues  
11           from just one or two of the revenue sources that reimburse these costs, such as basic local  
12           exchange rates and the FCC's subscriber line charge. If the entire amount of loop and port  
13           costs is being considered in the analysis, other sources of revenues should also be considered,  
14           since these are available to help offset those costs. The loop and port are also required for the  
15           provision of these other services. If the full cost of the loop and port are included in the cost of  
16           universal service, it is appropriate to balance against this cost the revenues from the full range of  
17           services benefitting from them.

18  
19     **Q.     Could you be more specific about which revenues to include, if the analysis includes**  
20           **100% of the joint costs?**

21     A.     The benchmark should include local revenues, which consist of the basic local rate, the end user  
22           common line charge, touch tone, extended area service (EAS) and Outside Base Rate Area



1 revenues. The benchmark should also include revenues from discretionary services, including  
2 Custom Calling, as well as Caller ID and other CLASS revenues. A substantial portion of toll  
3 and switched access revenues should also be included. Specifically, the benchmark should  
4 include the amount of toll and switched access revenues attributable to use of the loop and port.  
5

6 **Q. Are there any other revenues that could be included?**

7 A. Yes. The benchmark could also include a portion of ancillary revenues that are generated by  
8 LECs, as a result of their provisioning of local telephone service. Two prominent examples are  
9 revenues from directory publishing and inside wire maintenance service. Consider directory  
10 publishing revenues. The incumbent local exchange carriers earn very substantial revenues (and  
11 profits) from yellow page advertising. These rates vary directly with the number of subscribers  
12 included in (and receiving) the directory. As additional customers are added to the network,  
13 directory publishing revenues and profits expand. These revenues are particularly large in urban  
14 areas, where yellow page advertising generates enormous profits for incumbent LECs, but they  
15 are also available to incumbent carriers that serve rural areas. Similarly, many incumbent  
16 carriers generate substantial revenues and profits from inside wire maintenance. Carriers ability  
17 to generate these revenues is directly related to the fact that they provide the customers' access  
18 line.  
19

20 **Q. Let's discuss cost benchmarks. What are their advantages?**

21 A. Cost benchmarks are consistent with the method the FCC has adopted for the federal USF.  
22 Moreover, cost benchmarks provide regulators with greater flexibility in balancing the interests

1 of urban and rural customers. The portion of the high cost burden which would be borne by all  
2 customers and the portion which will be borne by carriers and customers in high cost areas can  
3 be readily specified when using a cost benchmark.  
4

5 **Q. A cost benchmark reflects "average" costs. Could the benchmark differ from the**  
6 **average itself?**

7 A. Yes. There are several ways a cost benchmark could be implemented. Potentially, the  
8 benchmark could equal to the average cost level, thereby funding all locations where costs  
9 exceed the statewide average. Another possibility is to establish a benchmark which exceeds  
10 the statewide average by some defined percentage. This is similar to the approach adopted at  
11 the federal level. In the October 21, 1999 Methodology Order, the FCC decided to set the  
12 cost benchmark at 135% of the national average. [¶ 10.]

13 The effect of varying this percentage figure is straightforward: with a higher benchmark,  
14 the fund would be smaller; with a lower benchmark the fund would be larger, holding everything  
15 else constant.  
16

17 **Q. What are the policy implications of applying a higher or lower percentage figure?**

18 A. If the goal were to limit the support flowing from urban areas to rural areas and to ensure that  
19 support is narrowly targeted at the areas with the most extreme cost conditions, a relatively high  
20 percentage figure should be used. For example, if support were only provided to locations  
21 where costs exceed 150% of the statewide average, support can be focused more narrowly on  
22 those wire centers and customers facing truly extraordinary cost conditions, and thereby limit

1 the size of the universal service fund.

2 In contrast, if the goal is to ensure a much broader flow of support by expanding the  
3 number of recipients to include those facing less extreme cost conditions, a lower percentage  
4 figure should be used. For example, if 100% were used, it would ensure that every wire center  
5 with costs above the statewide average will receive support, even if the costs are only slightly  
6 above that average. While this might seem desirable, it requires a very large fund, which  
7 becomes unwieldy to administer, and is more likely to create market distortions.

8  
9 **Q. Let's talk geography. Does it matter what geographic unit of analysis is selected for**  
10 **administering a high cost fund?**

11 A. Yes, this can have a very significant impact on the overall size of a fund, as well as the amount  
12 of funding received by specific carriers. Cost estimates that are developed for large geographic  
13 areas will tend to reflect average conditions throughout that entire area. High cost areas will be  
14 offset by low cost areas. Taken to the extreme, costs can be developed for an entire state, or a  
15 large statewide "study area" (e.g. the Qwest service territory in Arizona), as the FCC has done  
16 in implementing the federal USF. When this is done, cost conditions are broadly averaged, and  
17 carriers receive the same amount of support per line, regardless of whether a line is located in  
18 Phoenix or in a low density rural area.

19 A study which separately calculates cost for individual wire centers, or relatively  
20 homogeneous groups of wire centers highlights high cost patterns to a much greater degree.  
21 Even this approach, however, fails to disclose whether there are both low cost and high cost  
22 areas within individual wire centers. A finer-grain approach can further identify customers that

1 might need high-cost support, separating them from those which might not.

2 In general, the size of the universal service fund tends to be inversely related to the size  
3 of the geographic areas used in calculating the fund size. Very small areas (e.g., individual  
4 clusters or grid cells) translate into a large fund. At least in part this results directly from the  
5 impact of errors in the modeling process, which have an exaggerated effect as the unit of  
6 geography shrinks. This happens because the fund size is typically driven by differences  
7 between a given benchmark and the calculated cost; with extremely small geographic areas,  
8 errors in the modeling process, cost allocation procedures, and other phenomena cause the  
9 calculated costs to fluctuate widely above and below the benchmark. Since the fund size is  
10 determined by the magnitude of the discrepancies above the benchmark (without any offsetting  
11 reduction for discrepancies below the benchmark), these upward fluctuations tend to increase  
12 the size of the fund.

13 In attempting to model costs accurately, it is generally desirable to gather more detailed  
14 data, and to attempt to refine costs for relatively small geographic areas—smaller than a wire  
15 center. However, this does not imply that the fund itself should be administered at the same  
16 level of geographic detail. To the contrary, it would be preferable to use somewhat larger areas  
17 in administering the fund, relative to the size of the areas used in developing the costs.

18  
19 **Q. Does that mean that you disapprove of any unit of analysis smaller than a wire center?**

20 **A.** No. Assuming the underlying model is strong enough to support this level of detail, one would  
21 ideally group the geographic areas within each wire center into two zones or categories. This  
22 would provide a highly manageable degree of granularity for reporting purposes, and would aid

1 in gaining a more detailed understanding of the cost characteristics of each wire center. This  
2 approach would also allow one to examine the cost of serving low and high cost areas within  
3 each wire center, without becoming lost in a sea of detail (e.g., costs for individual grid cells or  
4 CBGs). An excellent balance between granularity and manageability can be achieved by  
5 classifying each part of each wire center into one of two categories. One category (e.g., zone  
6 1) would tend to include relatively low-cost areas. The other category (e.g., zone 2) would  
7 tend to include relatively high-cost areas.

8  
9 **Q. Can you summarize the rationale for distinguishing zones within the wire centers?**

10 A. Yes. In many rural wire centers the customers in town are actually quite inexpensive to serve.  
11 The only reason these wire centers appear to have high costs is because customers outside of  
12 town are very costly to serve. If support is provided to all lines in these wire centers, CLECs  
13 will be encouraged to serve the wire center, but the support payments they receive won't  
14 necessarily relate to the extent to which they actually serve high cost customers. If a CLEC  
15 chose to install cable in town and resell the incumbent's services outside of town, it would not  
16 experience any high costs. Yet, it would potentially receive substantial payments from the IUSF  
17 as if it were a facilities-based provider in a high cost area.

18  
19 **Q. Can the extent of geographic averaging affect the size of the fund?**

20 A. Yes. The zone concept can have a significant impact on the extent of support provided to  
21 specific customers, it can influence the amount of funding received by particular carriers  
22 (particularly competitive carriers) and it can even impact the overall size of the fund (depending

1        upon how the concept is implemented). Cost estimates that are developed for large geographic  
2        areas will tend to reflect average conditions throughout that entire area. High cost areas will be  
3        offset by low cost areas. Taken to the extreme, costs can be developed for an entire state, or a  
4        large statewide "study area" When this is done, cost conditions would be broadly averaged,  
5        and carriers would receive the same amount of support per line, regardless of where that line is  
6        located.

7  
8        **III. PRICE CAP AND TRADITIONAL REGULATION**

9  
10       **Q.     Please turn to the next section of your testimony. Can you begin by briefly discussing**  
11       **the origins of public utility regulation?**

12       **A.     Yes.** Historically, utility regulation reflects the well-founded perception that certain types of  
13       goods and services cannot be efficiently provided under competitive conditions. It generally has  
14       proven uneconomic, for example, to have competing water, sewer, electric, or gas distribution  
15       systems within a single community. During the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, where two or  
16       three of these utilities tried to compete, normal competition did not seem to be sustainable.

17       Economists came to describe these types of markets as "natural monopolies." If  
18       competing companies do survive in a natural monopoly, they tend to incur excessive costs and  
19       needless duplication of facilities. Typically, a single strong company evolves, dominates the  
20       market with its unmatched low costs, and drives all others from the field.

1     **Q.     What concerned early regulators about natural monopolies?**

2     A.     By the late 1800's and early 1900's, legislators and regulators became concerned that the  
3             surviving firms in the public utility industries were raising prices to excessive levels and enjoying  
4             substantial monopoly profits at consumers' expense, or would do so in the future. As the  
5             realization grew that normal competitive forces could not be relied upon to protect customers  
6             from monopoly power, regulatory agencies were created in state after state, and began to  
7             exercise jurisdiction over the electric and telephone industries in an effort to advance the public  
8             interest.

9  
10    **Q.     What goals were policy makers hoping to achieve by regulating these industries?**

11   A.     The primary objective of regulation has always been to produce results in the utility sectors of  
12             the economy that parallel those obtainable under conditions of effective competition. Although  
13             economists recognize that full competition remains an unrealized ideal in our economy, the high  
14             levels of efficiency and equity achieved under effective competition have long been a primary  
15             justification of America's free enterprise or market-directed system.

16  
17   **Q.     What mechanism was used by regulators to achieve this goal?**

18   A.     Consistent with this competitive standard, regulators attempted to set prices to provide a  
19             well-managed utility with the opportunity to cover all of its necessary costs (where costs are  
20             defined as including a fair return on the capital employed). Although the utility may recover  
21             more or less than its full cost in the short run, its total cost should generally be equated with total  
22             revenues over a longer period of time. When rates are controlled in this manner (regardless of

1           whether this is accomplished through traditional rate base regulation or through an alternative  
2           system), there will be an equitable and efficient balance between the interests of the utility and  
3           its investors on the one hand, and those of its customers on the other hand. Such a balance,  
4           which occurs naturally in markets controlled by effective competition, has been the goal for  
5           utility rate regulation in most jurisdictions.

6  
7       **Q.    Were legal standards established for determining a fair rate of return?**

8       **A.    Yes.** The comparability standard for determining the fair rate of return for a utility, including the  
9           cost of equity capital, has been repeatedly upheld in Supreme Court decisions. In the landmark  
10          case, *Bluefield Water Works & Improvement Co. v. Public Service Commission*, 262 U.S.  
11          679, 692-93 (1923), the Supreme Court set forth the criteria for determining a fair rate of  
12          return for a utility:

13                   A public utility is entitled to such rates as will permit it to earn a return...  
14                   equal to that generally being made... on investments in other business  
15                   undertakings which are attended by corresponding risks and  
16                   uncertainties; but it has no constitutional right to profits such as are  
17                   realized or anticipated in highly profitable enterprises or speculative  
18                   ventures. The return should be reasonably sufficient to assure  
19                   confidence in the financial soundness of the utility and should be  
20                   adequate, under efficient and economic management, to maintain and  
21                   support its credit and enable it to raise the money necessary for the  
22                   proper discharge of its public duties.  
23

24  
25                   In *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944),  
26                   guidelines were established to judge reasonableness of return. The Supreme Court held that:



1           it is important that there be enough revenue not only for operating  
2           expenses but also for the capital costs of the business. These include  
3           service on the debt and dividends on the stock. By that standard the  
4           return to the equity owner should be commensurate with returns on  
5           investments in other enterprises having corresponding risks. That  
6           return, moreover, should be sufficient to assure confidence in the  
7           financial integrity of the enterprise, so as to maintain its credit and to  
8           attract capital. [*Hope*, p. 603 (citation omitted)]  
9

10          The Supreme Court stressed that setting an appropriate rate of return and rates in general do  
11          not relate solely to protecting investors' interests. They also involve protecting the rights of  
12          consumers.  
13

14          **Q.    Are there any problems associated with the traditional rate base form of price**  
15          **regulation?**

16          A.    Yes. Although the public interest has been well served by traditional regulation, there are  
17          several aspects of rate base regulation that have led observers to question whether it is still  
18          appropriate for the telecommunications industry, and to lead policy makers to search for  
19          alternatives. Most of this criticism has focused on one or more of the following issues: (1) the  
20          lack of strong incentives to operate efficiently and to minimize costs; (2) a potential failure of  
21          utilities to increase their productivity as rapidly as possible due to this lack of incentives; (3) the  
22          costs of regulation; and (4) the desire to rely partly on competition, rather than pure regulation,  
23          to advance the public interest, together with a corresponding concern that rate base regulation  
24          might not be fully compatible with this trend towards more increased competition.  
25

1     **Q.     What alternatives to traditional regulation have been implemented in the United**  
2     **States?**

3     A.     Regulators have tried various forms of alternative regulation in an effort to increase or improve  
4     management incentives while protecting the interests of consumers. Typically, regulators used  
5     price caps, partial deregulation, profit-sharing, price freezes or some combination of the four.  
6

7     **Q.     Has there been a trend towards any particular form of alternative regulation?**

8     A.     Yes. Prior to the divestiture of AT&T, all 50 states employed traditional rate base regulation. In  
9     the late 1980's, shortly after divestiture, several states adopted price freezes and rate case  
10    moratoria. [See Chumrong Ai and David Sappington, The Impact of State Incentive Regulation  
11    on the U.S. Telecommunications Industry, Table 1, June 2001,  
12    <http://bear.cbo.ufl.edu/sappington/papers/txt4.pdf>.] Price freezes were sometimes viewed as a  
13    transitional form of regulation, to be used while state commissions sorted out the effects of  
14    AT&T's divestiture and investigated other forms of alternative regulation. During the late 1980's  
15    and early 1990's, other states were beginning to test profit sharing as an alternative to traditional  
16    regulation. Meanwhile, the FCC and regulators in some other countries started to rely on price  
17    cap regulation. Some states began experimenting with price caps around 1990. The initial  
18    experience of the carriers was apparently favorable, since they began advocating price cap  
19    regulation to various regulatory commissions and legislative bodies. The transition to this new  
20    concept was remarkably swift; by 1996, operations of the regional BOCs (RBOCs) were more  
21    heavily regulated by price caps than by rate of return, overturning a tradition that had persisted  
22    for nearly a century.

1     **Q.     Were policy makers abandoning public interest goals when they moved to price caps?**

2     A.     Absolutely not. The specific goal of price cap regulation is to eliminate, or at least weaken, the  
3           linkage between cost and rates, but there is no evidence that policy makers have abandoned  
4           their focus on the broad public interest, or that they are no longer concerned about the  
5           traditional goals of public utility regulation. For example, in developing and refining its system of  
6           price cap regulation, the FCC apparently still viewed the results of effective competition as an  
7           appropriate benchmark for price cap regulation. For instance, it explained that competition

8  
9           encourages firms to improve their productivity and introduce improved  
10          products and services, in order to increase their profits. With prices set  
11          by marketplace forces, the more efficient firms will earn above-average  
12          profits, while less efficient firms will earn lower profits, or cease  
13          operating. Over time, the benefits of competition flow to customers  
14          and to society, in the form of prices that reflect costs, maximize social  
15          welfare, and efficiently allocate resources. [Price Cap Performance  
16          Review for Local Exchange Carriers, First Report and Order, CC  
17          Docket No. 94-1, 10 FCC Rcd 8961, 9002 (1995)]  
18

19           In adopting this new system of regulation, the FCC believed that the results of price  
20          caps would correspond to the results of a competitive market more closely than had been  
21          possible under previous regulatory systems. Although the FCC was trying to encourage growth  
22          in productivity by permitting incumbent LECs that increase their productivity to earn higher  
23          profits, it was not abandoning its traditional focus on preventing monopolists from charging  
24          excessive rates or earning supra-normal profits.  
25  
26

1     **Q.     Can you clarify how a price cap formula differs from traditional cost-of-service**  
2     **regulation?**

3     A.     Yes. Perhaps the most significant difference is that price cap regulation generally focuses on  
4     industry-wide data, while traditional regulation focuses on carrier-specific data. However, the  
5     full impact of this difference is not felt initially. When a price cap system is initially instituted, it  
6     typically resembles traditional regulation, since the price cap is usually based upon the existing  
7     tariffs, which were derived from carrier-specific data. In some states, rates have been reduced  
8     below the existing level at the time a price cap plan is adopted, but I am not aware of any cases  
9     in which the starting rates were based upon national averages or other industry-wide data.  
10    Over time, the two systems will tend to diverge, since the price cap method of regulation  
11    normally focuses on industry-wide factors, while traditional regulation focuses on company-  
12    specific data (in a rate case).

13           The general formula for price cap regulation can be written as:

14  
15           
$$\text{RateNew} = \text{RateOld} \text{ times } [1 + (I - X)],$$

16           where I = some measure of economy-wide inflation, and

17           X = a factor which reflects differences between costs experienced by  
18           this type of firm and those occurring in the economy generally.

19  
20           By including a factor for inflation, the firm is allowed to increase its prices to keep pace  
21           with inflation. This makes sense, to the extent that a firm's costs can be expected to increase as  
22           a result of inflation. However, since costs do not increase by exactly the same amount

1 throughout the economy, due, for example, to industry-specific differences in productivity  
2 growth, the formula typically includes a factor (usually referred to as the "X" factor) which  
3 attempts to track industry-specific differences.

4 To the extent that the price cap formula does not adequately take into account industry-  
5 specific or carrier-specific circumstances, this discrepancy will translate into higher or lower  
6 than normal profits. For instance, if the firm benefits from circumstances that are more favorable  
7 than the nationwide norm, its profits will increase. Whether this increase in profits is an  
8 advantage or disadvantage of the price cap system depends on one's perspective, as well as  
9 the reasons underlying the discrepancy between the carrier-specific and nationwide data.

10  
11 **Q. You mentioned that one of the goals of price cap regulation is to sever the regulatory**  
12 **link between costs and rates. Do you have any evidence regarding the historical link**  
13 **between costs and rates?**

14 **A.** Yes. We find that under conditions of effective competition, increases and decreases in costs  
15 eventually translate into similar increases and decreases in prices. Rate of return regulation  
16 historically achieved a similar pattern by requiring utilities to pass through to customers  
17 reductions in their costs. In some cases, as with fuel and purchased power costs incurred by  
18 electric utilities, this pass-through has been achieved very directly and quickly. In other cases, it  
19 has only occurred after a lengthy lag.

20 While prices and costs will sometimes diverge for individual firms (and for an entire  
21 industry over brief periods of time), both rate of return regulation and effective competition have  
22 historically been quite successful in forcing firms to provide customers with the benefits of cost

1 reductions and requiring customers to compensate firms for cost increases.

2 This general pattern—in which prices and costs are closely aligned and monopoly profits  
3 are largely precluded—has generally applied to the RBOCs. As shown in Graph 1,  
4 telecommunications prices experienced a strong downward trend in real terms over the 68-year  
5 period from 1936 to 2003. The data in this graph are based upon the retail prices charged for  
6 telephone services as collected by the United States Government for inclusion in the Consumer  
7 Price Index (CPI). To better appreciate this long-term downward trend, the effects of inflation  
8 have been removed from the data (using the GDP-Deflator). As shown in this graph, after  
9 removing the distorting effect of changes in the value of a dollar, it is clear that telephone  
10 companies have benefitted from a strong downward trend in their costs, and that the benefits of  
11 this downtrend have been shared with, or passed through to, customers in the form of lower  
12 real prices.

13 Despite the overall downward trend in prices during the 68-year period, there were  
14 some brief periods when prices for telephone services were increasing faster than the overall  
15 inflation rate. For example, “real” telephone prices briefly increased from 1937 to 1939, 1948  
16 to 1950, and 1981 to 1987. However, these periods were exceptions to the overall pattern.  
17 The long-term trend in prices has been strongly downward for the entire period since the Great  
18 Depression.

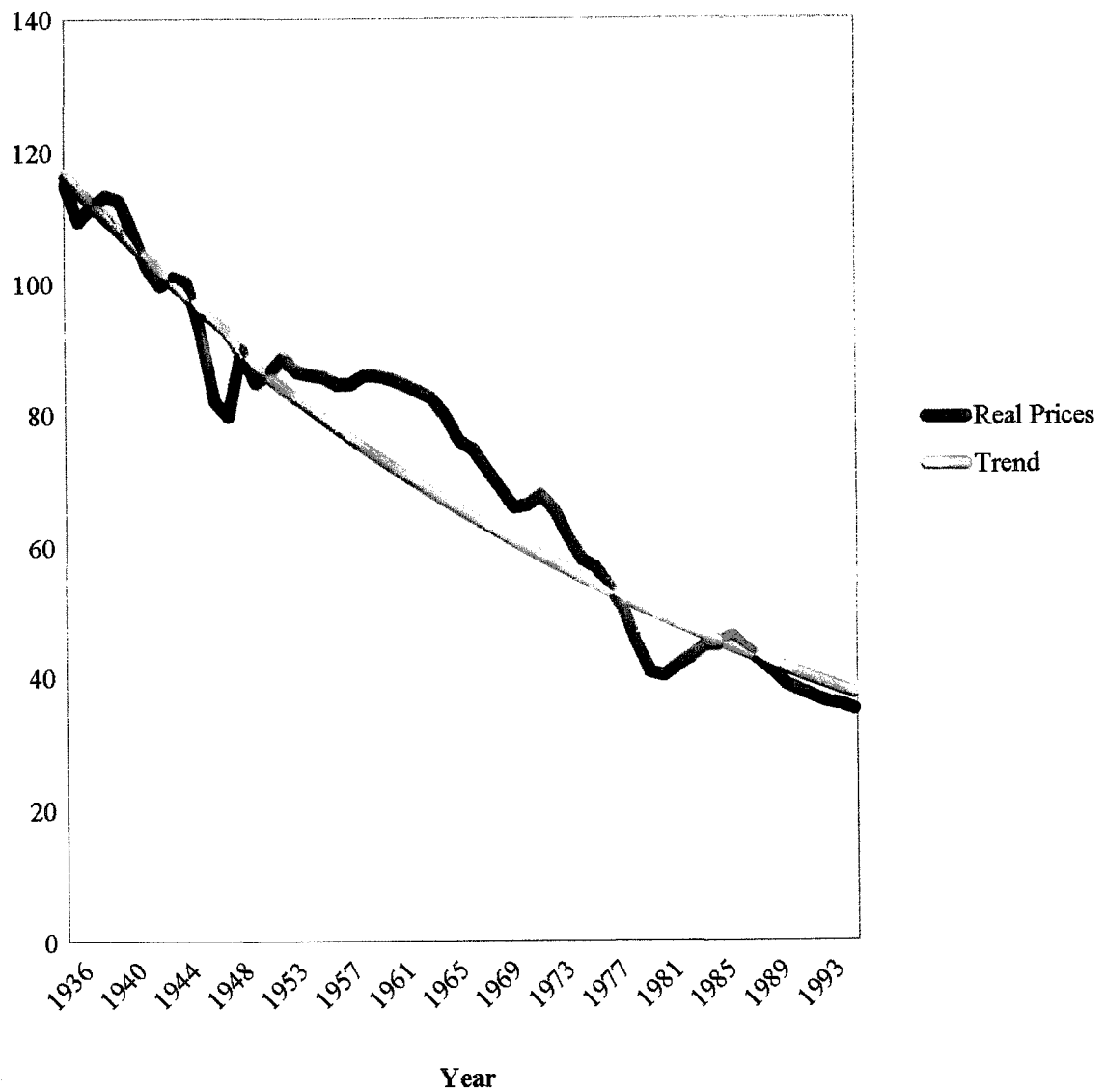
19  
20 **Q. Why did telephone prices not increase as fast as inflation?**

21 **A.** As I mentioned earlier, traditional regulation is similar to competition in requiring carriers to pass  
22 cost reductions through to their customers. Since prices have been declining in real terms, while

**Graph 1**

**Trend in Real Telephone Prices: 1936-1995**

*(Index: 1929/1931=100)*



1 the firms have maintained their financial integrity and generally earned adequate returns, it is  
2 self-evident that these firms' costs must have been declining. If costs had been trending up,  
3 eventually (after regulatory lag) prices would have been trending up.

4 This downward trend in real telephone prices is largely the result of increasing  
5 economies of scale and the underlying declining cost nature of this industry. Costs have been  
6 declining, and prices have followed this same downward trend. Moreover, input costs within  
7 the telecommunications industry do not necessarily follow the same inflation pattern experienced  
8 by the overall economy. For example, it is well known that electronic equipment is not  
9 increasing in cost as rapidly as the overall rate of inflation. In fact, digital electronic equipment,  
10 such as personal computers, has actually been declining in cost. LECs rely heavily on  
11 computers for engineering, accounting, billing, and general office purposes. Similarly, the net  
12 prices paid by LECs for other equipment, including central office switches and fiber  
13 multiplexers, have declined over time.

14  
15 **Q. What about the other, less specialized inputs used by the telecommunications**  
16 **industry?**

17 **A.** While some items may have increased as rapidly as the overall inflation rate, others have  
18 actually decreased sharply in recent years. While nominal prices are dropping from year to  
19 year, when quality changes (e.g., improved speed, memory, storage and capacity) are  
20 considered, the effective price decline is even greater. Admittedly, most other items purchased  
21 by the LECs have not declined in cost as rapidly as computers. However, many of these costs  
22 have not increased as rapidly as the overall rate of inflation. Hence, prices for telephone



1 services have not increased as fast as inflation, which contributes to the downward slope shown  
2 on Graph 1.

3  
4 **Q. Do you have any data confirming that the decline in prices shown on Graph 1 was the**  
5 **result of declining costs per unit?**

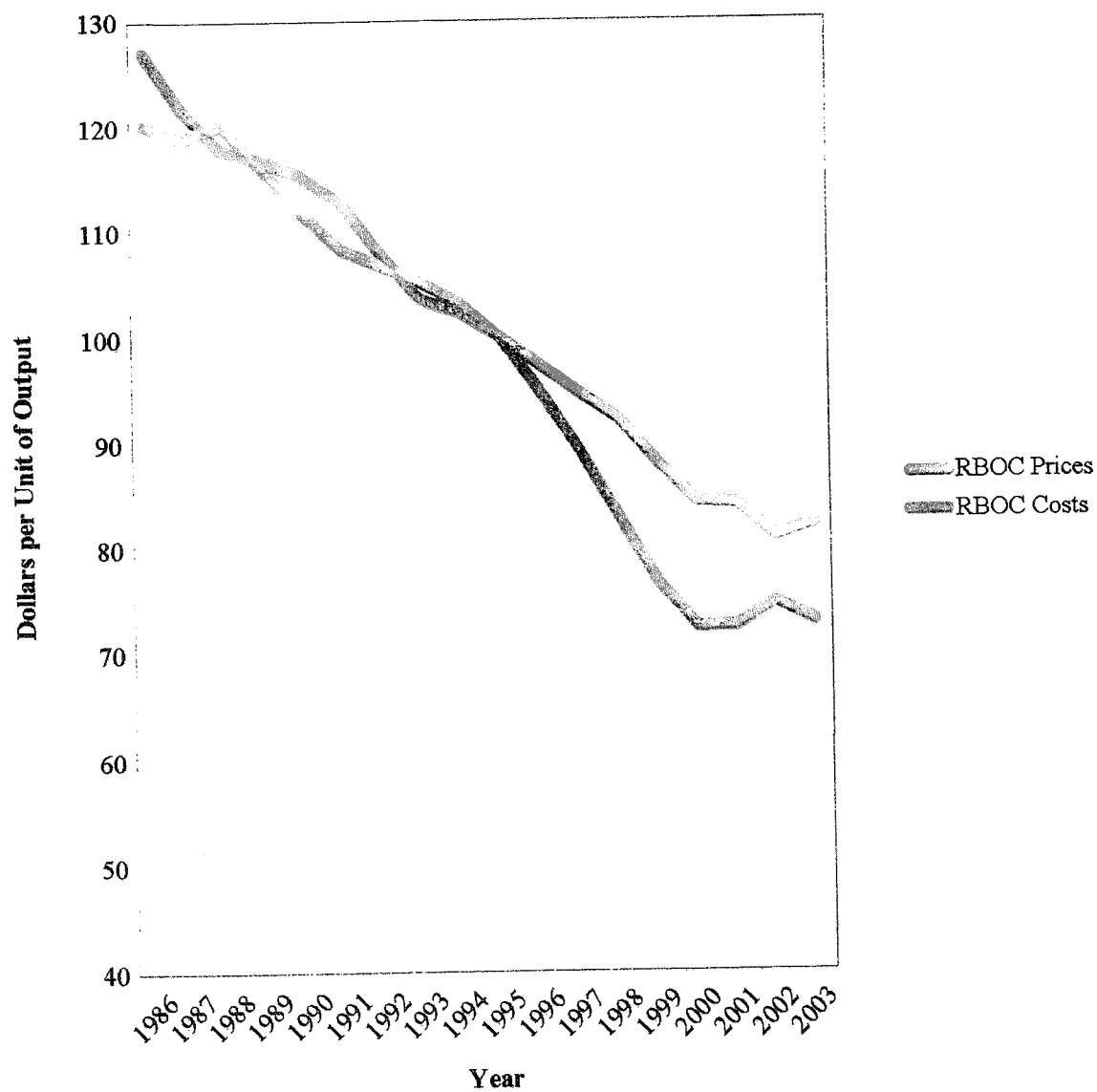
6 A. Yes. Graph 2 compares the trend in RBOC output prices to the trend in input costs during the  
7 period from 1986 to 2003. The blue line, which shows the RBOCs' prices, is conceptually  
8 similar to Graph 1, but it was developed in a somewhat different manner, and it covers a more  
9 limited time period. The trend in prices was derived from the RBOCs' revenue data, as  
10 reported to the FCC. To convert from revenues to prices, we divided by output (thereby  
11 deriving revenues per unit). The data are in nominal terms—that is, I have not adjusted the data  
12 for the effects of inflation. If I had restated the data in “real” terms, like Graph 1, the slope of  
13 the lines would be even more sharply downward.

14 In Graph 2, the green line shows the RBOCs' costs per unit. I developed this line by  
15 totaling all of the capital, labor and materials costs incurred by the RBOCs, and dividing by total  
16 output. Capital costs included an estimate of the cost of equity capital. To the extent that the  
17 RBOCs earned returns which were above or below their cost of equity in a particular year,  
18 their revenues per unit and total costs per unit are not the same. As shown, prices have not  
19 perfectly tracked costs from year to year, although both prices and costs were trending down at  
20 a similar rate up until approximately 1995.

**Graph 2**

**RBOC Prices and Costs: 1986-2003**

*(Index: 1995=100)*



1     **Q.     Has traditional regulation been effective in reducing prices to reflect declining costs?**

2     A.     Yes, although the regulatory process is far from perfect. The 1986 to 1995 portion of Graph 2  
3           confirms that overall, rate base regulation was quite effective in requiring firms to reduce prices  
4           by roughly as much as their unit costs. Accordingly, it is fair to say that traditional rate base  
5           regulation was effective in simulating the competitive process by requiring firms to pass through  
6           to customers most of the benefits of declining costs. Of course, the alignment of prices and  
7           costs has varied from time to time and state to state, at least in part due to the effects of  
8           regulatory lag.

9  
10    **Q.     What does the graph show from 1996 forward?**

11   A.     Starting around 1996, costs began to decline at a more rapid pace, which was not immediately  
12           matched by corresponding acceleration in price reductions. As a result, a rapidly expanding  
13           gap emerged between these two sets of data, and it has not been closed. This indicates that  
14           RBOC prices are now well above the corresponding level of costs. The downtrend in costs  
15           flattened somewhat in 2001, resulting in a partial diminution of the gap between prices and  
16           costs. However, in 2003 prices turned slightly upward, while costs turned back downward.  
17           Hence, there are no indications that the substantial gap between prices and costs will disappear  
18           anytime soon.

19  
20   **Q.     Is this discrepancy between prices and costs a significant one?**

21   A.     Yes. Graph 2 indicates that the RBOCs have not passed through to consumers a large portion  
22           of the cost reductions they have experienced since about 1995. It is also significant to note that

1 Graph 2 does not provide any indication that this gap between prices and costs is diminishing,  
2 or that sufficient forces are in place to push prices down to closer alignment with costs. If  
3 regulation were working as it should, or if competition were fully effective, we would expect  
4 prices and costs to remain in fairly close alignment—at least on an industry-wide basis over  
5 multi-year periods. In a fully competitive market, for example, if unit costs decline sharply,  
6 prices will normally also decline sharply. A familiar example is the computer industry, where  
7 manufacturing costs per unit are rapidly declining, and competitive pressures have forced these  
8 cost savings to be passed through in ever-lower retail prices. A close review of Graph 2 fails to  
9 show any sign that the current regulatory system or competitive pressures are forcing rates  
10 down to levels that are fully consistent with the declining level of costs incurred by the RBOCs.

11  
12 **Q. Let's discuss the inflation offset component of price cap regulation. What is Qwest's**  
13 **proposal regarding this component?**

14 A. As witness Shooshan explains, Qwest proposes to replace the "automatic productivity and  
15 inflation adjustment mechanisms of Basic/Essential Basket 1 with an overall revenue cap."  
16 [Shooshan Direct, p. 3]

17  
18 **Q. What reasons does Mr. Shooshan give for this recommendation?**

19 A. He argues the existing mechanism is appropriate because it required Qwest to reduce rates,  
20 contending that the proposed revenue cap "is an important improvement over the  
21 productivity/inflation index that resulted in overall revenue decreases for the past 3 years."  
22 [Shooshan Direct, p. 7]

1     **Q.     Does Mr. Shooshan agree that the productivity/inflation price cap mechanisms were**  
2           **necessary?**

3     A.     Yes. Mr. Shooshan concedes the validity of these mechanisms as a general matter, noting that  
4           they allow

5  
6           ILECs to increase their prices (in nominal terms) only to the extent that  
7           the rate of inflation exceeded an estimate of the firms' productivity. The  
8           productivity adjustment itself was based on the assumption that the  
9           ILECs, as they emerged from cost-plus pricing and were afforded  
10          efficiency incentives for the first time, would likely experience greater  
11          rates of productivity improvement than the economy as a whole.  
12          Certainly, it was reasonable for this Commission to embody a  
13          productivity offset in its initial price regulation plan [Shooshan Direct, p.  
14          10].  
15

16    **Q.     What is the current productivity offset?**

17    A.     The existing offset was negotiated between Qwest and the ACC staff as part of the terms of the  
18          Settlement Agreement of the prior rate case. More specifically, the current Plan provided

19  
20          that Basket 1 Services will be capped and subject to an "Inflation minus  
21          Productivity" indexing mechanism. Thus, when productivity exceeds  
22          inflation, rates will decrease. The Productivity Factor for the initial term  
23          of the Plan is 4.2 percent, which includes a 0.5 percent consumer  
24          dividend [Decision No. 63487, Docket No. T-01051B-99-0105,  
25          March 30, 2001, p. 5].  
26  
27  
28  
29

1     **Q.     So Qwest now wants to eliminate the Productivity or "X" factor which it negotiated just**  
2     **a few years ago. In your opinion, has Qwest adequately supported this proposed**  
3     **change?**

4     A.    No. Qwest provides no evidence that industry wide productivity has decreased, nor has it put  
5     forward any evidence that customers, or the public generally, will benefit from the proposed  
6     change. To the contrary, it merely argues (without evidentiary support) that continued revenue  
7     reductions (due to the "X" factor) are "clearly unsustainable over any long period of time."  
8     [Shooshan Direct, p. 7].

10    **Q.     Dr. Johnson, do you agree that revenue reductions are unsustainable, or that an "X"**  
11    **factor is no longer appropriate?**

12    A.    No. An offset continues to be appropriate, since it ensures that industry-wide increases in  
13    productivity and decreases in costs will be passed through to customers, as they would be  
14    under effective competition, as well as under traditional regulation. An offset is also appropriate  
15    because it ensures that ratepayers share in some of the benefits of technological improvements,  
16    increased economies of scale and other forces which have contributed to the long-term decline  
17    in telecommunications costs. These favorable industry-wide trends tend to translate into a  
18    pattern of declining costs over time; it is not inappropriate for these cost reductions to be  
19    passed through to consumers, even if it results in a net reduction in Qwest's revenues (e.g.  
20    where Qwest's market share is declining ).

21           Mr. Shooshan doesn't necessarily dispute the fact that declining costs should be  
22    accompanied by declining prices. However, he contends that "competition can now serve as a

1 constraint on both prices and earnings, and as a means for distributing the gains from increased  
2 productivity.” [Shooshan Direct, p. 9] This line of reasoning would be more persuasive if he  
3 were able to demonstrate that market forces alone are sufficient to continue the long term  
4 historic pattern of decreasing costs and prices. If competitive forces are, in fact, strong enough  
5 to force carriers to pass productivity gains through to consumers, thereby ensuring that prices  
6 decline as fast as costs, then the offset simply serves as a backup safety measure—one that  
7 protects consumers in the event competitive forces weaken. As well, the offset is helpful since it  
8 provides some protection for consumers if the market environment is not as Mr. Shooshan  
9 describes. In other words, the offset will only have an impact if productivity gains (whatever  
10 they are) would not be passed along to consumers, absent such a requirement.

11  
12 **Q. The “X” factor used in price regulation is supposed to be consistent with the observed**  
13 **level of “X” that is achieved on an industry-wide basis, thereby ensuring that a**  
14 **carrier’s prices will decline when industry-wide costs decline. Has the achieved level**  
15 **of “X” during the past decade been consistent with the level used in the Companies’**  
16 **price cap Plan?**

17 **A.** Generally, yes, although not on a year-by-year basis, since the data tends to be volatile. During  
18 some years the observed level of “X” has exceeded the negotiated level included in the current  
19 plan, and in other years it has been less than that level. Without digressing into a lengthy  
20 discussion of the most appropriate way to calculate an appropriate offset or “X” factor, I would  
21 simply point out that the recent data for “X” is not inconsistent with that observed in prior years,  
22 taking into account the inherent volatility of this data. While the most recent data is lower than in

1 prior years, there is no reason to believe the negotiated 4.2% offset is too large. To the  
2 contrary, most of the historic evidence points toward an "X" factor that is consistent with, or  
3 larger than, the current 4.2% "X" factor.

4 I have calculated "X" for the years 1986 through 2003, and summarize the results in  
5 Table 4 below.

6  
7 **Table 4**  
8 **"X" Factor Moving Average: 1986 - 2003**  
9

Time Period	5-year Moving Average
1986-1990	5.00%
1987-1991	5.57%
1988-1992	5.30%
1989-1993	5.80%
1990-1994	5.24%
1991-1995	5.09%
1992-1996	5.04%
1993-1997	5.33%
1994-1998	5.25%
1995-1999	7.00%
1996-2000	7.46%
1997-2001	6.62%
1998-2002	4.29%
1999-2003	3.40%



1           It is well understood that productivity and input cost changes can (and do) fluctuate  
2           from year to year, sometimes drastically, and that it is difficult to accurately forecast the change  
3           that will occur in any given year. However, the fact that "X" fluctuates, or that it is hard to  
4           forecast, does not provide a logical basis for assuming a zero "X" factor, or for adopting  
5           changes to price cap regulation which would only make logical sense if one were confident that  
6           "X" will average out to zero in the future. To better appreciate the flaw in this logic, consider a  
7           simple analogy. It is unclear what interest rates will be in the future, but that does not provide a  
8           logical basis for assuming interest rates will drop to zero, or for asking someone to loan you  
9           money without charging any interest.

10           While the telephone industry productivity and input cost reductions fluctuate from year  
11           to year, they do not generally fluctuate in a range above and below zero, nor does "X" average  
12           out to zero. To the contrary, the achieved level of the "X" factor is normally well above zero,  
13           regardless of how one measures it, and on a multi-year basis it consistently averages far above  
14           zero, as demonstrated in Table 4 above.

15           Although there have been wide year-to-year fluctuations in "X" throughout the historic  
16           record, there is no reason to believe it will now disappear, or decline to zero. During the period  
17           from about 1996 through 2003 the industry experienced an unusually rapid decline in costs.  
18           This brief burst in productivity translated into higher than typical levels of "X" for a few years.  
19           Following this brief, sharp decline in costs, which was not fully passed through to consumers,  
20           the industry has been experiencing a few years in which costs are not declining as rapidly as the  
21           long term trend. In the subsequent few years, costs have declined more slowly than normal,  
22           and therefore "X" has been lower than the long term average, but there is every reason to

1 anticipate it will eventually return to its long-term average, and thus there is every reason to  
2 continue using the negotiated 4.2% "X" factor.

3  
4 **IV. COMPETITION**

5  
6 *History of Competition in the Telephone Industry*

7  
8 **Q. Would you please briefly explain the historical trend towards increased competition in**  
9 **telecommunications markets?**

10 **A.** Yes. The local telephone business was competitive early in the last century, with some cities  
11 having two or even three rival telephone networks. Since these networks were not  
12 interconnected, it was necessary for a customer to have two or three different phones in his  
13 home or business, in order to communicate with the total population of the city. This situation  
14 was plainly inefficient, and there was increasing public demand for interconnection, especially  
15 between independent local companies and the long-distance lines of AT&T.

16 In late 1913, after the Justice Department filed an antitrust suit, AT&T agreed to  
17 interconnect. Although this "Kingsbury Commitment" appeared at the time to end AT&T's  
18 aspirations to have a national monopoly, in fact the natural monopoly characteristics of the  
19 industry prevailed, even though a few cities did somehow retain dual facilities for decades--  
20 Philadelphia until 1945. The technology in use at that time made dual local facilities redundant  
21 whether interconnected or not, and the carrier with the largest customer base achieved the  
22 lowest costs. These cost characteristics doomed the attempt at local competition. In the

1           absence of effective competition or regulation, each local phone company, whether owned by  
2           AT&T or not, could charge monopoly rates. By the 1930's, AT&T was thoroughly established  
3           as the dominant carrier in the telecommunication industry, and in most jurisdictions its rates  
4           were regulated to prevent monopoly prices and profits.

5           Starting in the 1950's, the telecom industry began slowly evolving away from a  
6           regulated monopoly structure towards a more competitive one. A series of court rulings and  
7           changes in government policy encouraged this trend, in an effort to achieve more rapidly the  
8           benefits of effective competition, including lower prices, higher service quality, and enhanced  
9           technological progress.

10           In 1954, Hush-A-Phone Corporation filed a complaint with the FCC requesting an  
11           order forbidding Bell companies from interfering with the distribution of a product it had been  
12           manufacturing and selling for over 20 years – a cup-like device that snapped on to phone  
13           handsets, allowing the user to carry on a more private phone conversation. As the device  
14           became more popular, the Bell companies used certain tariff provisions to pressure subscribers  
15           into removing the attachment. In 1956, a federal appeals court overturned an earlier FCC  
16           decision and found that “[t]he intervenors’ tariffs, under the Commission’s decision, are an  
17           unwarranted interference with the telephone subscriber’s right reasonably to use his telephone  
18           in ways which are privately beneficial without being publicly detrimental.”[*Hush-A-Phone*  
19           *Corporation v. United States of America and FCC*, 238 F. 2d 266 (1956)] This was the  
20           first decision to chip away at AT&T's absolute control over all telephone equipment. In 1968,  
21           the FCC, taking its cue from the court in *Hush-A-Phone*, held that Bell could not prevent the  
22           use of the Carterfone, a device which made possible two-way conversations between

1           telephones and mobile radios. [See *Kahn*, p. 143.] Today, the market for telephone  
2           instruments and other customer premises equipment (CPE) is highly competitive; no one firm  
3           has a dominant share of either the manufacturing or the distribution and marketing of CPE. Even  
4           AT&T, which once overwhelmingly dominated the industry, has just a small slice of the market.

5           The next major breakthrough came in 1969, when the FCC approved MCI's request  
6           to build a point-to-point communications link between St. Louis and Chicago. [*In re*  
7           *Applications of Microwave Communications, Inc.*, 18 F.C.C. 2d 953 (1969).]

8           Although the FCC had earlier opened the door to private communications systems [*In the*  
9           *Matter of Allocation of Frequencies in the Bands Above 890*, Report and Order, 27 FCC  
10          359 (1959)], the MCI decision was the beginning of competitive common carrier service.

11  
12       **Q.    When did competition begin in the long distance industry?**

13       A.    In September of 1974, MCI filed with the FCC a tariff revision, establishing rates for a new  
14       service called "Execunet." An Execunet subscriber could place a long distance call to  
15       individuals in other cities in which MCI had facilities by dialing a local MCI number, entering an  
16       access code, and then entering the area code and number in the distant city. AT&T claimed  
17       that MCI was providing long distance services that were not authorized by its service licenses,  
18       and the FCC agreed. [See *MCI v. FCC*, 561 F. 2d 365, D.C. Cir. (1977)] Upon review, the  
19       D.C. Circuit Court of Appeals sided with MCI. The court opined that "there may be very good  
20       reasons for according AT&T de jure freedom from competition in certain fields; however, one  
21       such reason is not simply that AT&T got there first". [Id.] The MCI decision opened the long  
22       distance market to competition which gradually expanded in scope and intensity. By the end of

1           2002, AT&T's long distance market share had declined to approximately 38%. [FCC  
2           Statistics of the Long Distance Telecommunications Industry, May 2003, released May 2003]

3  
4           **Q.   What was the next major milestone in the history of telecom competition?**

5           A.   The most significant subsequent milestone was the Modification of Final Judgment (MFJ)  
6           ending the seven-year antitrust suit filed by the Department of Justice against the Bell System.  
7           The divestiture by AT&T of the BOCs accelerated a trend towards increased competition in  
8           several markets, particularly long-distance toll and customer premises equipment. After years of  
9           litigation, on January 8, 1982, a settlement was announced; AT&T had agreed to break up its  
10          \$137 billion empire.

11                 The theory was simple: to separate the competitive aspects of AT&T's operations from  
12          its monopoly services. In the original settlement, the parties agreed to the following:

- 13
- 14                 •   AT&T would retain its long distance business, its equipment manufacturing company  
15                     (Western Electric), its research subsidiary (Bell Labs) and its directory publishing  
16                     businesses.
  - 17
  - 18                 •   AT&T would divest its 22 local operating companies, which would be grouped into  
19                     seven RBOCs.
  - 20
  - 21                 •   The RBOCs would provide all long distance carriers with "equal access" to their local  
22                     facilities (access equal to that provided AT&T).

- The RBOCs would not pursue any "non-monopoly" business, including the provision of long distance and information services, the marketing or manufacturing of CPE or the provision of directory advertising.

**Q. Was the settlement accepted by Judge Greene?**

A. Not entirely. Judge Greene made several changes to the restrictions placed on the RBOCs. For example, the RBOCs would retain control of the extremely profitable Yellow Pages. In this regard, it is important to recognize that Judge Greene specifically declined to move the Yellow Pages to AT&T, along with the more competitive services (e.g., inter-LATA toll and customer premises equipment), despite the fact that such a move would have increased the potential for encouraging a more competitive directory market structure. Apparently, Judge Greene felt it was more important to maintain a high level of contribution from the Yellow Pages to the RBOCs (and correspondingly lower prices for local exchange services) than it was to encourage a greater level of competition in the directory advertising market.

**Q. Could you now discuss the emergence of competition in the local exchange markets?**

A. Although progress was made in opening up the CPE and long distance markets, as well as a few other sectors of the telecommunications industry, progress in the local exchange market proved much slower, although there was considerable interest in attempting to encourage competition in this sector of the industry. In the 1996 Telecom Act, Congress mandated the removal of many barriers to competitive entry, resulting in an enormous shift in the structure, and regulation, of the local exchange market. The FCC explained:

1 Historically, regulation of this industry has been premised on the belief  
2 that service could be provided at the lowest cost to the maximum  
3 number of consumers through a regulated monopoly network. State  
4 and federal regulators devoted their efforts over many decades to  
5 regulating the prices and practices of these monopolies and protecting  
6 them against competitive entry. The 1996 Act adopts precisely the  
7 opposite approach. Rather than shielding telephone companies from  
8 competition, the 1996 Act requires telephone companies to open their  
9 networks to competition. [*First Report and Order*, CC Docket No.  
10 96-98, August 8, 1996, ¶1]  
11

12 The 1996 Act established a national policy in favor of local competition, and it declares  
13 invalid all state rules that restrict entry or otherwise limit competition in telephone service.

14 Section 253(a) of the Act provides:

15 No state or local statute or regulation, or other State or local legal  
16 requirement, may prohibit or have the effect of prohibiting the ability of  
17 any entity to provide any interstate or intrastate telecommunications  
18 service.  
19  
20

21 The Act also provides that the FCC may preempt any state or local requirements that  
22 violate this subsection. [Section 253(d).] While state laws and regulations blocking competition  
23 are no longer allowed, states retain considerable freedom to develop and implement policies  
24 concerning the telephone industry which are not inconsistent with the pro-competitive thrust of  
25 the 1996 Act. For example, the states may impose, on a competitively neutral basis,  
26 requirements necessary to preserve and advance universal service, protect the public safety and  
27 welfare, ensure the quality of telecommunications services, and safeguard the rights of  
28 consumers. [*Id.*, Section 253(b).]

1           Among other things, the Act requires all local exchange carriers to interconnect with  
2           new entrants on reasonable terms, unbundle their networks and offer the unbundled  
3           components to competitors at reasonable rates, and allow resale of their services by  
4           competitors, in order to promote an effectively competitive local exchange market.

5  
6       **Q.    Would you explain what kinds of competition the 1996 Telecom Act was designed to**  
7       **encourage?**

8       **A.    Yes. The 1996 Act was designed to encourage telecommunications providers to engage in**  
9       **competition of three kinds:**

10                   The Act contemplates three paths of entry into the local market – the  
11                   construction of new networks, the use of unbundled elements of the  
12                   incumbent's network, and resale. The 1996 Act requires us to  
13                   implement rules that eliminate statutory and regulatory barriers and  
14                   remove economic impediments to each. We anticipate that some new  
15                   entrants will follow multiple paths of entry as market conditions and  
16                   access to capital permit. Some may enter by relying at first entirely on  
17                   resale of the incumbent's services and then gradually deploying their  
18                   own facilities. ... Some competitors may use unbundled network  
19                   elements in combination with their own facilities to serve densely  
20                   populated sections of an incumbent LEC's service territory, while using  
21                   resold services to reach customers in less densely populated areas.  
22                   [*First Report and Order*, CC Docket No. 96-98, August 8, 1996,  
23                   ¶12.]  
24  
25

26                   The FCC's three-path approach recognizes that the public interest will best be served  
27                   by encouraging competitive entry in as many ways as are feasible, thereby ensuring that a wide  
28                   variety of different potential competitors are attracted to enter the market, including pure



1 resellers, mixed-mode carriers, and carriers that attempt to completely duplicate the ILEC's  
2 network. Even the latter firms will find it necessary to purchase unbundled loops and other  
3 network components from the ILEC during the start-up phase, while their networks are under  
4 construction.

5  
6 **Q. It has been more than eight years since the 1996 Telecom Act became law. Has it**  
7 **accomplished all that was intended?**

8 A. By no means. Events of the past eight years have shown the enormity of the obstacles facing  
9 local exchange competitors. While CLECs have become increasingly successful in the past few  
10 years, as of December, 2003, competitive local exchange carriers (CLECs) still served less  
11 than 20% of the switched access lines in the U.S. [*Local Telephone Competition Report*,  
12 FCC, June, 2004, Table 1] Unquestionably, competition has been slow developing in most  
13 markets nationwide. Of course, the pattern is not entirely even, nor would one expect it to be.  
14 Some urban markets (e.g., New York City) have seen a significant amount of competitive  
15 activity, while customers in many rural markets will have to wait much longer before they are  
16 given many or any competitive choices.

17  
18 *Effective Competition and Market Power*

19  
20 **Q. Can you elaborate on the concept of effective competition, and how this relates to the**  
21 **concept of market power?**

22 A. Yes. The concepts of market power and effective competition are closely related. For the

1 public interest to be advanced, competition must be strong enough to drastically curtail or  
2 eliminate market power. It is not sufficient to remove legal barriers to entry, or to have more  
3 than one firm enter the market.

4 Where competition is effective, it can advance the public interest by increasing  
5 consumer choices, promoting technological and service innovations, and (potentially, but not  
6 necessarily) lowering prices below the level that would be allowed under rate base regulation.  
7 However, it is important to remember that the simple act of opening a market to new entrants  
8 by no means ensures that effective competition will instantly emerge. In an industry like  
9 telecommunications, where market power has existed for a century or more, reducing and  
10 eliminating that market power will likely be a slow and difficult process. Even if all entry barriers  
11 have been removed, there is likely to be an unstable and hazardous period of transition,  
12 indeterminate in duration, before monopoly gives way to truly competitive conditions.

13 Effective competition benefits consumers, not only because they will not be forced to  
14 pay unreasonably high prices to a monopolist, but also because they will be offered more  
15 options, will be free to choose amongst a wider variety of products and services, and will be  
16 able to change providers if they become dissatisfied with their current supplier. Furthermore,  
17 effective competition forces all firms in the industry to adapt their products and services to the  
18 demands of consumers, drives prices downward toward the actual cost of service, and  
19 promotes productive efficiency, to the benefit of society as a whole. Thus, effective competition  
20 not only prevents the exercise of market power, but it also advances the public interest  
21 generally.  
22

1     **Q.     You emphasize the need for effective competition in order to achieve beneficial results.**

2             **Could you explain this concept in greater detail, and explain its significance in this**  
3             **docket?**

4     A.     Yes. In order to understand the concept of effective competition, it is useful to consider first an  
5             even purer form of competition—where absolutely no market power exists. Economic theory  
6             defines a purely competitive market in very specific terms. First, numerous firms must  
7             participate, each acting independently and none controlling a share of the market large enough  
8             to significantly influence its prices. Second, the goods or services produced must be  
9             homogeneous (e.g., no product differentiation). Third, there must be no substantial barriers to  
10            entry or exit.

11            There are few real-world markets that conform to this strict theoretical definition of  
12            pure competition. Nevertheless, its characteristics provide a good benchmark for measuring  
13            the actual level of competition that is present in a particular situation and in understanding what I  
14            mean by the term “effective competition.” By judging how closely a specific market approaches  
15            the benchmark of pure competition, one can better evaluate whether or not competition has  
16            become intense enough to replace regulation, or to justify less stringent regulation. A more  
17            relaxed form of regulation or a greater degree of deregulation may make sense once  
18            competition reaches the point where it is reasonably effective—where a relatively large number  
19            of firms are competing, no one firm is dominant, and prices are controlled by the market, rather  
20            than by the actions of the dominant firm or a few key firms. Once such conditions prevail,  
21            customers can receive most of the benefits ascribed to purely competitive markets, and the  
22            regulatory controls that have traditionally been imposed in a monopoly environment are no

1 longer needed—even if the market falls short of the purely competitive benchmark.

2 Effective competition is present when a market is free of substantial barriers to entry  
3 and exit and when no firm or consortium of firms has enough market power to set or strongly  
4 influence market prices. This implies that there are multiple firms operating in the market, selling  
5 essentially the same product for prices that are determined by market forces. Each such firm is  
6 largely unable to set its own prices; rather, it must take as a given the level of prices determined  
7 in the market place. (If the firm attempts to charge more than this market-determined price  
8 level, it will lose virtually all its customers.)

9 I am not suggesting that effective competition is the same thing as pure competition, nor  
10 am I suggesting that in order to justify further relaxation of regulatory controls a service must be  
11 subject to pure competition. In the case of pure competition, the supplying firm takes prices as  
12 totally given, but this condition is neither necessary nor achievable in the telephone industry. The  
13 classic example of pure competition is the market for wheat, where a farmer has absolutely no  
14 say in deciding what prices he will charge. Clearly, competition can be effective while falling  
15 short of this extreme case. For instance, the firm may have limited freedom to set prices within a  
16 narrow range, but if it attempts to charge substantially more than the normal (market-  
17 determined) rate, it will lose so much sales volume that it will not find this pricing strategy  
18 profitable.

19 Once competition becomes strong enough to force Qwest to charge the going market  
20 rate for its services in a particular market—and it is unable to significantly influence or increase  
21 that going market rate—then price cap regulation should be greatly loosened, particularly if  
22 Qwest is being forced by competition to set its rates below the price cap level, regardless of

1           how it is computed. Stated differently, once competitive pressures become strong enough to  
2           prevent the exercise of monopoly power, stringent regulation is no longer needed, and the price  
3           cap rules should be greatly relaxed.

4                     Similarly, with regard to product homogeneity, an industry can be effectively  
5           competitive, even though each firm distinguishes its products in various ways. The key question  
6           is whether there are enough customers who are sufficiently indifferent to brand-specific  
7           differences that they willingly switch back and forth between brands. If every customer is totally  
8           committed to a single provider, and the product differences are so important that one brand is  
9           almost never substituted for another, competition will not be effective, and the situation may  
10          come close to fitting the definition of pure monopoly, despite the presence of multiple suppliers  
11          offering somewhat similar products.

12                    I agree with the official position statement adopted by the National Association of  
13          Regulatory Utility Commissioners (NARUC), as set forth below:

14                             The framework for transitioning to industry-wide competition must be properly  
15                             laid or we risk having unregulated monopolies, increasing telephone rates,  
16                             decreasing subscription levels, diminishing quality of service, and infrastructure  
17                             dis-investment for some areas. Because of the incentives and opportunities for  
18                             dominant providers to frustrate competition, there must continue to be oversight  
19                             of the transition.... The development of competition is a time-intensive, pro-  
20                             active effort. Removing statutory and legal barriers to entry is the first step.  
21                             However, the subsequent steps which will actually allow competition to develop  
22                             will be where the hard work lies. [NARUC Bulletin No. 48, November 28,  
23                             1994, p. 5.]  
24  
25  
26

1 If the Commission grants the Companies the pricing flexibility they seek prior to the existence of  
2 effective competition, consumers will not be able to reap the full benefits of competitive delivery  
3 of telephone service.

4  
5 **Q. You have been distinguishing between the mere presence of competitors and an**  
6 **effectively competitive market. Can you elaborate on this distinction?**

7 A. Yes. It is sometimes argued or assumed that once legal barriers to entry have been removed  
8 and the market contains more than one firm, it can be described as "competitive." However, the  
9 mere presence or absence of multiple firms does not determine whether the public is receiving  
10 benefits of true competition. *Effective* competition must first be present--the market must be  
11 free of substantial barriers to entry and exit and no firm or consortium of firms can retain enough  
12 market power to set or strongly influence market prices. Both buyers and sellers must view  
13 prices as a given, rather than something they can determine based upon their preferences or  
14 profit goals. In other words, while the decisions of participants in the market may collectively  
15 influence the level of prices observed in the market, participants must behave as if prices are  
16 unaffected by their own decisions regarding how much they should purchase or produce.

17 If either buyers or sellers recognize that they can control or greatly influence the level of  
18 prices that prevail in the market, effective competition does not prevail. The greater the degree  
19 of control that can be exercised, the less competitive forces will prevail and the greater the  
20 degree of market power that is present. Usually, four conditions are considered sufficient to  
21 assure that sellers will behave as "price takers," or effectively compete with each other. If any  
22 one of these conditions is largely or entirely absent, the prospects for effective competition are

1 diminished or eliminated.

2 First, no one firm can have a dominant share of the market. If a firm engages in price  
3 leadership, dominant firm pricing, or price discrimination, its behavior is inconsistent with  
4 competitive behavior. This condition is violated in markets where a carrier's market share is  
5 substantially greater than that of all its competitors combined.

6 Second, the offerings of the supplying firms must be reasonably uniform or similar from  
7 the perspective of the buyers in the market. If consumers view a particular product or service  
8 as uniquely preferable to the alternatives offered by other firms, the supplying firm will not need  
9 to behave as a "price taker." A similar problem can arise if consumers are reluctant to change  
10 suppliers even in the face of substantial inducements (e.g., lower prices).

11 Third, the number of supplying firms must be large enough so that the total amount  
12 supplied to the market cannot be restricted. It always is in the interest of suppliers to limit the  
13 total amount supplied to the market, because by limiting supply, they can charge a higher rate  
14 and earn greater returns (economic profits) than under the conditions of competition.

15 Fourth, as noted in the criteria cited above, firms must be free to enter and exit the  
16 industry. If any firm decides to produce the service, no substantial legal, financial, or other  
17 barrier must stand in its way. Patents or trademarks (such as brand names) and other legal  
18 barriers can preclude effective entry even if other legal barriers do not exist. Similarly,  
19 substantial economic barriers may remain, even if legal barriers have been eliminated or greatly  
20 ameliorated. It is important to realize that barriers to exit are also very important, because they  
21 can discourage firms from entering the market in the first place (for fear of losing their  
22 investment) and because they can discourage competitors from aggressive actions to gain

1 market share from a dominant firm for fear of retribution by the dominant firm. Where barriers  
2 to exit are present, new firms may be cautious in their tactics, because they know they cannot  
3 escape the consequences of the dominant's firm's response through a quick, painless departure  
4 from the market.

5  
6 **Q. How do you determine whether effective competition has developed?**

7 A. If any one of the conditions just discussed is largely or entirely absent, the prospects for  
8 effective competition are diminished or eliminated. Market dominance and the ability to  
9 exercise market power – not the mere presence of alternative suppliers – are the key issues in  
10 deciding whether or not effective competition has emerged or is emerging. Thus, a logical first  
11 step in evaluating the extent of competition is to evaluate relative market shares. If the  
12 incumbent continues to enjoy an overwhelmingly large market share relative to the new entrants,  
13 it would not be appropriate to adopt regulatory policies which assume that competition is  
14 effective. Unless and until the incumbent's market power is greatly eroded, the continued  
15 regulatory oversight provided by state commissions and the FCC provides valuable protection  
16 for consumers and the public interest generally.

17 Policy makers at both the state and federal level have taken steps to move  
18 telecommunications markets towards effective competition; however, that does not necessarily  
19 indicate that the transition to effective competition has yet been achieved in any particular case,  
20 or that the time is ripe to remove regulatory protections for consumers.



1     **Q.     Did Congress eliminate all barriers to entry when it passed the 1996 Telecom Act?**

2     A.     No. Legal barriers to entry have been largely, if not entirely, eliminated from Arizona  
3           telecommunications markets as a result of passage of the 1996 Telecom Act. As a result of  
4           these same laws and related decisions by this Commission and the FCC, it is also fair to say  
5           that economic barriers to entry have been substantially "lowered." However, economic barriers  
6           to entry have not been eliminated, nor is there any evidence that entry barriers have been  
7           lowered sufficiently to create or sustain effective competition.

8           Market share data can provide an indication of the extent to which barriers to entry  
9           remain significant. Even if legal barriers to entry have been eliminated, and even if economic and  
10          technical barriers to entry have been reduced, this does not mean that all barriers to entry have  
11          been completely eliminated. The evidence nationwide suggests the contrary conclusion: the  
12          1996 Telecom Act is now more than eight years old, and yet the incumbent carriers in every  
13          state continue to dominate most of their respective markets.

14  
15    **Q.     Is there evidence that substantial barriers to entry still exist?**

16    A.     Yes. The 1996 Telecom Act removed legal barriers to entry and reduced economic barriers to  
17           entry (e.g., through mandatory interconnection and network unbundling on regulated terms and  
18           conditions). At the time, the hope and expectation of many policy makers and industry  
19           observers was that the Act would encourage cable TV carriers to compete with the incumbent  
20           telephone carriers, LECs to enter video markets, and both long distance and local exchange  
21           carriers to enter each other's markets across the country in a "free for all" of intense  
22           competitive activity. Needless to say, this has not happened. Perhaps the most striking and

1       most significant development has been the almost complete lack of competitive entry efforts by  
2       the large incumbent LECs. These experienced, well financed firms have almost completely  
3       refused to enter each other's service territories. Yet, if the 1996 Telecom Act had truly  
4       eliminated all entry barriers, one would logically expect most—if not all—of these carriers to push  
5       hard to expand in other parts of the nation. In the absence of entry barriers, competitive  
6       expansion of this sort would be the natural strategic path, both because it would provide an  
7       easy means to offset the adverse revenue and earnings impact of competitive pressures within  
8       each firm's own service territory, and because geographic expansion of this sort is a necessary  
9       first step towards establishing a nationwide, or international, market presence.

10       Today, more than eight years after passage of the 1996 Telecom Act, we find that none  
11       of the large RBOCs with the greatest expertise in local telephony have made any substantial  
12       effort to enter any of the local exchange markets dominated by other incumbents. This general  
13       nationwide pattern is certainly true in Arizona, where none of the largest United States local  
14       exchange carriers—including BellSouth and SBC—have attained more than a minuscule share of  
15       any of Qwest's local telecommunications markets. Like "the hound that didn't bark," this  
16       absence of significant market penetration is extremely significant, and it strongly suggests the  
17       continued presence of very substantial (albeit not highly visible) barriers to entry.

18       If competitive entry were truly effortless and profitable (or at least economically  
19       rational), then at least one or two of the largest, most experienced LECs in the nation would  
20       have long since entered some of the Companies' Arizona markets and would have already  
21       gained a substantial share of the market. With a century of experience in the industry and close  
22       familiarity (albeit from an incumbent's perspective) with the technical, managerial and marketing

1           hurdles facing new entrants into local telephone markets, these large LECs are strongly aware  
2           of the height of the economic, technical and marketing barriers to successful entry.

3           If only one large, highly qualified potential entrant had refused to take on the challenge  
4           of competing with the Companies on their home turf, this might be considered a mere  
5           idiosyncrasy. But the fact is that every single one of the largest, most highly qualified potential  
6           entrants has either completely refused to enter the competitive fray in Arizona, or has only  
7           obtained a very small share of the market outside of its own service territory. This consistent  
8           pattern of non-entry or non-success cannot plausibly be attributed to mere coincidence, or a  
9           lack of management interest in pursuing growth opportunities. The only reasonable conclusion is  
10          that substantial barriers to entry exist, which have discouraged these experienced participants  
11          from challenging the Companies where they have the home-field advantage.

12  
13       **Q.    Aside from the difficulties and risks associated with confronting the dominant carrier,**  
14       **are there any other plausible explanations for the lack of competitive entry by the**  
15       **incumbent LECs outside of their own service areas?**

16           Certainly, there are other factors that might be contributing to the reluctance of the  
17           largest carriers to enter each other's territories. Conceivably, some carriers might be staying  
18           home because they want to limit the scale and scope of their activities, or they are unwilling to  
19           tackle any major risks. But if these carriers truly believed that resale and UNE rental provided  
20           an easy path to growth and profits, as they sometimes claim, and if barriers to entry were truly  
21           minimal, then surely one or two of them would have pursued this opportunity. If carriers like  
22           Qwest, Verizon, and SBC truly believe that entry is easy and UNEs are grossly underpriced,

1           why are they not eagerly plunging into each others' territories—if for no other reason than to  
2           prove how easy it is, and to validate their claims that the FCC's current rules governing UNE  
3           rentals are too favorable to new entrants?

4                     For that matter, if these carriers were primarily concerned about limiting their risks or  
5           avoiding the pitfalls of excessive scale and scope, one would expect to see a pattern of very  
6           extensive but selective entry—with firms concentrating on entering other service territories close  
7           to their home turf.

8                     At a minimum, if entry barriers were truly low, one would expect to see very extensive  
9           and widespread expansion into new wireline markets by carriers like Sprint and Verizon, along  
10          with their expansion into more wireless markets. These carriers are renting storefronts, hiring  
11          regional management and sales personnel, and incurring other overhead costs in order to  
12          establish a nationwide market presence. They also have technicians, customer service  
13          representatives and other knowledgeable personnel deployed in numerous states throughout the  
14          nation. Yet these firms have made very little effort to expand their wireline operations beyond  
15          their traditional service territories. The fact that major carriers like Sprint and Verizon have  
16          stayed away from trying to challenge other incumbent LECs on their home turf is clear evidence  
17          that barriers to entry remain high, notwithstanding the 1996 Telecom Act.

18                    It is also worth noting that the major carriers have not shown any reluctance to greatly  
19          expand the scale and scope of their operations in other ways, where entry barriers are lower.  
20          As I just mentioned, both Sprint and Verizon are expanding into wireless markets nationwide,  
21          Ameritech has expanded into the burglar alarm business, and BellSouth has expanded into  
22          telecommunications markets in 15 other countries. If barriers to entering wire line local

1 exchange markets were truly low or non-existent, it seems inconceivable that every one of the  
2 major ILECs would ignore the opportunity to aggressively expand beyond their traditional  
3 territory. Recent experience in the electric power generation business demonstrates that long-  
4 regulated firms can be eager to expand into other geographic areas, provided entry barriers are  
5 low enough.

6  
7 **Q. What do carriers have to do in order to overcome barriers to entry?**

8 A. In the current environment, new entrants may have to take drastic measures (e.g., incurring very  
9 high sales costs, or offering substantially more attractive prices than those of the incumbent) in  
10 order to overcome customer inertia or customers' perception that the incumbent is the "safest"  
11 and most reliable choice. To this extent, CLECs' will have great difficulty increasing their  
12 market share—unless they are willing (or forced) to operate with very low, or negative, profit  
13 margins. In evaluating the extent to which barriers to entry have diminished, the telling evidence  
14 is the extent to which the new firms have gained market share, in conjunction with evidence  
15 concerning the extent to which these firms have been able to generate profits and positive cash  
16 flows during the growth process.

17 Even if a new carrier has experienced phenomenal growth, increasing market share  
18 from zero to 2% of the market in a few short years, this information alone does not necessarily  
19 indicate that entry barriers are minimal or non-existent, nor does it mean the new entrant will  
20 soon grow large enough to challenge the Arizona ILECs' dominant position in the market. To  
21 the contrary, the Commission should also consider the difficulties which may be encountered  
22 when the new entrant tries to expand beyond its current niche role (e.g., serving customers who

1 are the most strongly attracted to its initial offerings, or those who are the most willing to take a  
2 chance on a new carrier). As well, the Commission should consider the level of marketing and  
3 sales effort that has been required in order to achieve this level of growth. A new entrant might  
4 be incurring ruinously high marketing and sales costs in order to maintain a rapid rate of growth,  
5 and thus its entry efforts may not be profitable or sustainable over the long haul. In judging the  
6 extent to which barriers to entry have declined, market share of the competitors must be  
7 carefully evaluated, along with information concerning whether these firms are financially  
8 successful and viable. In this regard, it is important to realize that one cannot simply assume that  
9 the recent upward trend in CLECs' market shares will continue indefinitely. Without detailed  
10 information concerning the marketing and sales costs, profit levels and cash flows being  
11 experienced by the carriers that are attempting to enter new markets, one cannot be confident  
12 that recent trends will continue. Carriers may be pursuing business plans that generate rapidly  
13 increasing sales together with negative cash flows and very small or non-existent profits.  
14 Particularly in the current investment climate, there is no reason to assume this type of growth  
15 will be sustainable over the longer term.

16  
17 **Q. Have you found any evidence that would substantiate your concern regarding current**  
18 **competitive trends?**

19 **A.** Yes. AT&T indicated recently that it is abandoning efforts to expand its operations in the  
20 residential telephone market.

1 Facing plunging revenue and an unfriendly regulatory and legislative  
2 landscape, AT&T is abandoning the residential telephone market,  
3 though it says it will continue to serve existing customers.  
4

5 The company's board of directors made the decision. It wants AT&T  
6 to focus all of its efforts on selling phone and data services to  
7 corporations and governments. That division brought in 73% of  
8 revenues in the last quarter.  
9

10 AT&T's departure from the battlefield may be a major victory for  
11 Verizon, SBC and the other regional Bell operating companies, which  
12 own virtually all of the copper cable that delivers telephone service to  
13 homes. AT&T has had to rent access on the local companies' cable to  
14 service residential customers. [ConsumerAffairs.com, *AT&T*  
15 *Abandons Residential Market*, July 22, 2004]  
16

17 An earlier report indicates that MCI may be considering similar action. [ConsumerAffairs.com,  
18 *AT&T Hangs Up*, June 23, 2004] Were these two large, national CLECs to abandon their  
19 operations in Arizona, the trend toward increased competition in the State would necessarily be  
20 adversely affected.  
21

22 **Q. You mentioned that the costs of changing carriers can represent a barrier to entry. Are**  
23 **these types of costs economically significant?**

24 **A.** Yes. Whenever a customer switches carriers, transaction costs are incurred. Most of these  
25 costs closely relate to the process by which customers obtain or change their telephone service.  
26 While such costs are incurred by any customer who moves to a new location, or adds  
27 additional phone lines, they will fall most heavily on customers who change carriers or try  
28 another carrier's service offerings. In economic terms, these "move and change costs" are

1           classified as transaction costs, like brokerage fees and credit card processing fees. It is well  
2           established that high transaction costs reduce the efficiency of markets and make it more  
3           difficult to achieve effective competition. In general, high transaction costs discourage  
4           transactions, inhibit the exercise of consumer choice, and create market friction (i.e., slow down  
5           or halt competitive pressures by inhibiting customers from shopping around or slowing the  
6           movement of price signals). An important characteristic of purely competitive markets is that  
7           transaction costs are very low relative to the value of the goods and services being purchased.  
8           Where transaction costs are high, effective competition is less likely.

9                     High transaction costs tend to discourage new carriers from entering the market. If the  
10           entrants try to pass the costs on to their customers, they will also tend to discourage customers  
11           from changing from one carrier to another. Regardless of whether these costs are absorbed by  
12           the new entrant or paid by the customer, they represent a significant economic barrier to entry,  
13           because they make it more difficult for carriers to sign up new customers. It is much more  
14           difficult and costly for customers to try a new local telephone carrier than it is to try most goods  
15           or services. A household can try a new cereal or a business can try a new brand of paper by  
16           picking up a free or discounted box of cereal or ream of paper. In markets where customers  
17           can easily try a new product or service out of curiosity, or to see how well they like it, entry  
18           barriers are lower and established firms will be subject to stronger competitive pressures.



1     **Q.     Mandatory resale and network unbundling were key elements of the 1996 Telecom**  
2     **Act, reducing barriers to entry. Have these policies been effective in reducing entry**  
3     **barriers?**

4     A.    Yes. Clearly, the 1996 Telecom Act's requirements for wholesale discounts and offering of  
5     UNE s are designed to reduce or mitigate economic barriers to entry; however, these  
6     provisions do not entirely eliminate the barriers in question. Economists' use of the term  
7     "barriers to entry" is not limited to an absolute prohibition against entering a market; rather, it  
8     encompasses any factors that make entry difficult, risky, or costly, thereby discouraging the free  
9     flow of firms into (or out of) a market. The presence of barriers to entry does not mean that  
10    entry is impossible, only that it is so hard, costly, risky, or time consuming, that potential  
11    entrants are discouraged from trying.

12           Mandatory resale of network elements and services is helpful in making it easier for  
13    competitors to enter the market. However, a fully competitive market can best be achieved if it  
14    also includes a reasonable degree of facilities-based entry, as well. Resellers and repackagers  
15    will always be limited in their ability to place competitive pressure on the incumbent carrier.  
16    Their prices are necessarily constrained by the incumbent's costs and wholesale prices; if the  
17    incumbents' costs are high, resellers' costs will also be high. Their product offerings are also  
18    constrained by various characteristics of the Companies' networks. Resale of services and  
19    UNEs allows customers to receive some of the benefits of competition immediately, and it  
20    allows CLECs to fill out their service territories or product offerings while their own networks  
21    are under development. Thus, these types of competition are beneficial, but they are not as  
22    rigorous or as intense as full facilities-based competition.

1     **Q.     Are there other entry barriers associated with resale and UNEs?**

2     A.     Yes. From a CLEC's perspective, if it relies on resale and UNE rentals, it remains at the mercy  
3             of the incumbents, the FCC and state regulators. Incumbents are not providing UNEs and  
4             wholesale discounts as part of some philanthropic endeavor. They provide them only to the  
5             extent laws and regulations require. A CLEC that relies on resale and UNEs is subject to the  
6             risk of changing state regulatory policies and decisions, especially with regard to UNE rates and  
7             wholesale discounts. From a CLEC's perspective, this is far from a purely hypothetical risk.

8  
9     **Q.     Could you elaborate on this risk?**

10    A.     For years, Qwest and the other RBOCs have been actively lobbying to restrict the availability  
11             of UNEs and to make it more difficult, or impossible, for CLECs to rely exclusively on this form  
12             of entry. As explained by Co-Vice Chair Nelson of the NARUC Telecommunications  
13             Committee in a recent submission to Congress, the RBOCs have been campaigning on Capitol  
14             Hill, "urging the FCC to restrict the tools used by State Commissions to promote local  
15             telephone competition, especially the use of the Unbundled Network Element Platform (UNE-  
16             P.)" [See *NARUC Bulletin*, October 14, 2002] Mr. Nelson explains:

17                     [T]he RBOCs only chose to commence their assault on UNE-P after it began  
18                     to erode their monopolistic profit levels and only after the U.S. Supreme Court  
19                     upheld the pricing model underlying UNE-P. They were willing to live with the  
20                     1996 Act until it produced the result the[y] have sought to avoid since its  
21                     passage - competition. [Id.]  
22  
23  
24

1           The RBOCs' assault on UNEs is not limited to regulatory proceedings and Capitol Hill. They  
2           have also been engaged in lengthy legal battles over the FCC's orders and rules that govern the  
3           pricing and availability of UNEs. The RBOCs have attacked the FCC's rulings on many  
4           different grounds, but a common thread running through their appellate efforts is that they are  
5           seeking to greatly limit or eliminate the use of UNEs as a form of competitive entry.

6  
7       **Q.    Is there any chance the RBOCs will succeed in this legal battle?**

8       A.    No one can predict the ultimate outcome, but a very real possibility exists that UNE rates will  
9           be increased, UNE availability will be reduced, and important UNE combinations will be  
10          eliminated. In fact, the RBOCs appear to have won the latest round of appeals. On May 24,  
11          2002, the D.C. Court of Appeals vacated and remanded the FCC's Local Competition Order  
12          and Line Sharing Order. [*United States Telecommunications Association, et al. v. FCC*,  
13          Case Nos. 00-1012; 00-1015, May 24, 2002] In ruling that the FCC's unbundling  
14          requirements were too broad, the Court of Appeals was sharply critical of the FCC's stance in  
15          favor of UNE competition:

16  
17               In the end, then, the entire argument about expanding competition and  
18               investment boils down to the [FCC]'s expression of its belief that in this area  
19               more unbundling is better. But Congress did not authorize so open-ended a  
20               judgment. It made "impairment" the touchstone.

21  
22               ... But to the extent that the [FCC] orders access to UNEs in circumstances  
23               where there is little or no reason to think that its absence will genuinely impair  
24               competition that might otherwise occur, we believe it must point to something a  
25               bit more concrete than its belief in the beneficence of the widest unbundling  
26               possible. [Id., p. 17]

1 More recently, on March 2, 2004, the D.C. Circuit vacated and remanded the FCC's  
2 efforts to rectify this problem with respect to mass market switching, based upon the  
3 FCC's delegation of this issue to the states (USTA II decision). The FCC responded  
4 on August 20, 2004 by issuing an Order and Notice of Proposed Rulemaking  
5 announcing its intention to rewrite its unbundling rules by the end of the year. [Order  
6 and Notice of Proposed Rulemaking, CC Docket No. 01-338, August 20, 2004, ¶11]  
7

8 **Q. What is the effect of these rulings?**

9 A. The full impact is not yet clear. The court is clearly telling the FCC that its existing list of  
10 mandatory UNEs and its rules regarding where these UNEs must be provided are far too  
11 broad. In the short term, these decisions cast a pall over the CLEC industry, making it more  
12 difficult for these firms to make investment and marketing decisions. In the long term, since the  
13 United States Supreme Court denied cert. on the USTA II decision regarding the TRO order  
14 on Oct. 12, 2004, we may see a drastic reduction in UNE-based competition. CLECs that  
15 have developed an entry strategy which relies heavily on rental of UNEs may go out of  
16 business, or they may be forced to greatly curtail and modify their operations. The trade press  
17 has reported that the FCC expects to issue revised rules by the end of the year. Depending  
18 upon the content of these revised rules, much of the competitive activity that is currently  
19 observed, based upon rental of UNEs, may disappear. While this may result in more facilities-  
20 based competition, the latter form of competition is clearly more difficult and time consuming to  
21 achieve; thus the overall level of CLEC market penetration may decline below current levels,  
22 and it may remain at relatively low levels for many years into the future.

1     **Q.     What could happen if CLECs can no longer rely on UNE-P, provided at cost-based,**  
2     **regulated prices?**

3     **A.     One executive of a major CLEC predicts that competition**

4  
5             would quickly atrophy, and in some areas would largely disappear. As  
6             I stated earlier, Sage, and many other competitive carriers choose to  
7             use UNE-P to provide service because UNE-P provides levels of  
8             service that are at parity with ILEC retail services and since it is not  
9             cost effective, economically justifiable, nor practical for a new  
10            competitive carrier to replicate the network built by a regulated  
11            monopoly. [Direct Testimony of Robert McCausland, MPSC Case  
12            No. U-13796, December 19, 2003, p. 23]  
13

14           Mr. McCausland goes on to say:

15  
16           Many CLECs clearly do not have available, and would not be able to  
17           readily secure, the financial and technical resources necessary to  
18           purchase and install their own switches. Without switches, and without  
19           ULS provided under existing rules, such CLECs would be unable to  
20           offer widescale basic local exchange service in Michigan and would  
21           likely be forced to abandon markets and customers within those  
22           markets. And, of course, any forced migration off of UNEs provided  
23           under existing rules would impact, and likely harm, existing CLEC  
24           customers. [Id., p. 23-24]  
25

26           While there is no way to know if these predictions will come true, the Commission  
27           should at least be aware of the fact that the picture of competition it is currently seeing in the  
28           state may shift significantly in the near future. In particular, there is no assurance that  
29           competition will be sustained at current levels in markets where a large fraction of the existing  
30           competition relies on UNE-P and resale.

1     **Q.     What about facilities-based competition? Are there additional barriers to this type of**  
2     **entry?**

3     A.     Absolutely. In fact, the high barriers to facilities-based entry were the primary motivation for  
4     requiring rental of UNEs. In the case of pure facilities-based carriers, the most prominent  
5     barriers to entry are the enormous cost of installing new facilities and the fact that these costs  
6     are largely irrevocable. In other words, once dollars have been sunk into network facilities, a  
7     carrier cannot readily move its investment to another market if it encounters difficulty attracting  
8     customers, or its initial business plan does not prove to be financially viable. In contrast,  
9     investments in manufacturing facilities are often fungible, so that upon exiting a particular market,  
10    the firm can often redeploy its capital in another market by reconfiguring its factory to produce  
11    an entirely different product.

12           For this reason, as well as the existence of an entrenched ILEC with a ubiquitous  
13    system and deep pockets, knowledgeable firms are rarely willing to undertake the enormous  
14    cost of building a competing network. The high cost of installing new facilities is compounded  
15    by the fact that new carriers face considerable uncertainty about how quickly they will be able  
16    to obtain customers, whether they will be able to obtain a substantial share of the market, and  
17    whether they will ever achieve adequate economies of scale. Hence, the adventuresome firms  
18    that have attempted pure facilities-based entry have typically started off by installing facilities  
19    that are limited in scope and largely confined to serving customers in a concentrated geographic  
20    area. This reduces the scale of their investment and allows a more focused business plan.  
21    However, it also increases risks, since the carrier will be dependent upon a less predictable  
22    income stream than if it were serving hundreds of thousands of smaller customers. Moreover, a

1 carrier following this entry strategy will face a higher level of marketing and sales costs, or it will  
2 be forced to rely upon the incumbent (through UNEs or resale) in order to serve the remainder  
3 of the metropolitan area.

4  
5 **Q. To the extent that facilities-based CLECs do not currently have enough capacity to be**  
6 **entirely self-sufficient, is there reason to be optimistic they will be able to install**  
7 **enough capacity to serve an ever-growing share of the market in the future?**

8 **A.** No. To the contrary, there is reason to be concerned that recent growth trends will not be  
9 sustainable. In recent years, investors have sunk billions of dollars into competitive carriers  
10 attempting to enter both the local and long distance segments of the industry. Carriers used  
11 these funds to build thousands of miles of fiber optic networks. This excess capacity will  
12 undoubtedly serve to reduce the market power of long distance industry participants, but  
13 relatively little of this capacity has been installed directly to individual end user homes and  
14 offices. Hence, in the context of this proceeding the main relevance of this excess fiber capacity  
15 will be its chilling effect on further investments. Investors will be discouraged from installing  
16 more fiber in local markets for fear of again making the mistake of building too much capacity  
17 and not being able to generate enough revenue to justify their investment.

18 The International Herald Tribune recently ran an article regarding Global Crossing's  
19 bankruptcy, which provides some insight into this problem. The author states:

20  
21 Caught in the industry's downward spiral, Global Crossing creditors  
22 and executives are finding that the longer they delay making a deal, the  
23 lower the bids get. ... A flagging industry, in even worse shape after the

1 bankruptcy filing last month of WorldCom, Inc., has put too many  
2 assets on the market. Troubled businesses, originally hurt by too much  
3 capacity and too little demand, now are faced with selling their portions  
4 of that glut at fire-sale prices. [*2 Ex-Suitors Return as Top*  
5 *Contenders for Global Crossing*, International Herald Tribune,  
6 August 7, 2002]  
7

8 Others write:

9  
10 From the mid-1990s until early 2000, the financial markets handed  
11 capital to seemingly anyone with a telecommunications plan. The  
12 excitement bloomed from technological advances as well as the federal  
13 government's efforts to loosen regulation and invite new players into the  
14 markets. A dozen networks were built to carry long-distance telephone  
15 and Internet data from city to city. Cable companies began upgrading  
16 their wires to carry phone and high-speed Internet links. Six national  
17 mobile phone companies were launched and dozens more were set up  
18 to serve niche markets.

19  
20 The relentless construction of networks would have been enough to fell  
21 much of the industry by itself. Then people in lab coats mastered new  
22 ways of getting even more calls and more Internet data to travel down  
23 one strand of fiber-optics cable. The engineering was breathtaking.  
24 From an investment standpoint, it was disastrous. There were already  
25 too many pipes. Now, the pipes were widening exponentially. Prices  
26 for service fell through the floor.  
27

28 From October 1998 to February of this year, the transmission capacity  
29 across the Atlantic expanded by a factor of 19. Meanwhile, the price of  
30 a leased transmission line dropped to \$10,000 a year from \$125,000,  
31 said Eli Noam, a professor of finance at Columbia University Business  
32 School. [*Telecommunications Sector May Find Past is its Future*,  
33 Washington Post, July 8, 2002]  
34  
35



1            Depending upon whether the new entrants are able to generate positive cash flows and profits,  
2            the trend towards increased competition may slow, or even be reversed, in the not too-distant  
3            future—particularly if firms run low on cash and they have difficulty in obtaining fresh cash  
4            infusions from Wall Street.

5  
6            **Q.    Some CLECs have already installed substantial amounts of capacity. Does this fact**  
7            **alone ensure that Qwest's Arizona market share will continue to decline?**

8            A.    No, it does not. As carriers such as Qwest and Global Crossing have learned, fiber capacity  
9            alone is not enough to assure continued revenue growth. Often, the most daunting task is to  
10           attract paying customers in order to fill their newly-built networks with profitable, revenue-  
11           generating traffic. Dominant carriers have a huge advantage in this regard. Even the largest of  
12           the competitive carriers (e.g., WorldCom) have struggled to gain enough traffic to fill their  
13           networks. When enormous network infrastructure investments are juxtaposed against relatively  
14           small market shares and limited revenue streams, the question of long term financial viability  
15           becomes critically important.

16           Contrary to the standard definition of a "contestable market," new carriers cannot  
17           readily exit most telecommunications markets without incurring enormous financial losses.  
18           Economic theory demonstrates that to the extent there are barriers to exiting an industry which  
19           are known in advance of entry, these barriers are effectively also a barrier to entry. In other  
20           words, the fear of losing their capital investment may prevent firms from investing in the first  
21           place. Because facilities-based carriers face enormous sunk costs, they are confronting very  
22           substantial barriers to entry. Once fiber is placed in the ground, it can only be used to provide

1 service along that particular route. If the carrier cannot generate enough revenues to recoup its  
2 investment, the CLEC cannot simply rip it up and move it to another location.

3 The recent Global Crossing experience has vividly demonstrated the near-impossibility  
4 of freely exiting a network-based industry. The Global Crossings situation, and other  
5 telecommunications bankruptcies in which brand new, state of the art assets were sold for cents  
6 on the dollar, vividly demonstrates the enormity of these capital-related barriers to entry.  
7 Building an alternative local network has always been a risky proposition for potential entrants,  
8 and after the recent problems, few investors are going to be willing to take on these risks.

9 In the current regulatory environment, the risks associated with a retail-only or UNE-P  
10 configuration are relatively modest. The required investments are smaller, and fewer costs are  
11 sunk. At least some of the investment is fungible or reusable in other markets, including  
12 investments in computers, desks, chairs, and the like. However, as I explained earlier,  
13 regulatory changes at the federal level may cause UNE entry to be more difficult and more  
14 risky. Even in the absence of adverse regulatory developments, UNE competitors are  
15 constrained by the technical characteristics of the incumbent's network, they face ongoing  
16 uncertainty concerning their cost structure and profit margins, and they cannot easily  
17 differentiate their offerings from those of either the incumbent or other competitors that rely  
18 upon the same facilities.

19  
20 **Q. You have identified multiple barriers to entry. You are not suggesting these constitute**  
21 **an absolute prohibition against competitive entry, are you?**

22 **A. No. The Commission needs to keep in mind the important distinction between absolute and**

1 partial barriers to entry. Partial barriers are not as extreme as absolute barriers, but they can still  
2 be effective in protecting a dominant firm's ability to charge rates that are well above its costs,  
3 and in slowing the erosion of its market power.

4 A dominant firm can enjoy many advantages that enable it to charge higher prices and  
5 earn much higher profits than its competitors. Other firms may be attracted to the market, and  
6 some may successfully enter, but that does not mean they will place much downward pressure  
7 on the incumbent's prices. Because they lack the advantages enjoyed by the dominant firm,  
8 their earnings may be much lower, and they may not benefit from economies of scale and scope  
9 to the same extent as the dominant firm. The larger firm may continue to enjoy a substantial  
10 degree of market power, because it benefits from a more favorable cost structure due to  
11 greater economies of scale and scope. While smaller competitors may survive, they may not  
12 grow beyond a certain point, and they may not be capable of exerting much competitive  
13 pressure on the dominant firm.

14  
15 **Q. Could you explain why, after so many decades of monopoly regulation, the industry is**  
16 **shifting towards competition?**

17 **A.** A common goal among all efforts to open telecommunication markets has been to solve the  
18 problems inherent in traditional regulation. As I discussed in section two of my testimony, these  
19 problems include a lack of incentives for cost minimization and efficiency; incentives to increase  
20 rate base through "gold plating", and the costs of regulation. In an attempt to overcome these  
21 problems, policy makers have increasingly relied on a mixture of competition and regulation.

1 **Q. So, policy makers are not simply choosing between two options: regulation on the one**  
2 **hand, or free markets on the other?**

3 A. Absolutely not. For instance, while Congress attempted to break down barriers to competitive  
4 entry, it simultaneously expanded the role of both state and federal regulators. Similarly, state  
5 legislators and regulators have been experimenting with alternative forms of regulation. These  
6 experiments have been partly a response to the trend towards increased competition, partly an  
7 effort to stimulate more effective competition, and partly an effort to solve inherent weaknesses  
8 and problems with traditional rate of return regulation.

9  
10 *Qwest Position and Support*

11  
12 **Q. What is Qwest's position regarding the move towards competition in Arizona?**

13 A. Qwest witness Teitzel notes that the Commission has established a mechanism to be used in  
14 responding to Competition in Arizona.

15  
16 Section R14-2-1108 of the Commission Rules specifies the procedures  
17 to be followed if a telecommunications company or the Commission  
18 believes a service should be classified as competitive. Petitioning  
19 parties are required to submit documentation in support of their  
20 contention that the service should be classified as competitive, including  
21 the number of alternative providers of the service, identification of the  
22 alternative providers, information on the ability of alternative providers  
23 to furnish substitutable services at competitive rates, terms, and  
24 conditions, and other indicators of market power. If the Commission  
25 finds that a service is competitive, the rules provide for streamlined  
26 regulation of that service. [Teitzel Direct, p. 70]  
27

1           However, he then says that

2  
3           the existing service-specific approach to pricing flexibility, while helpful  
4           in the past, is inconsistent with today's competitive environment. A  
5           reasonable solution is to establish competitive zones which will provide  
6           Qwest pricing flexibility in specific markets to enable it to compete on a  
7           more equal basis with competitors operating within those same limited  
8           geographic areas. I also recommend that the Commission classify new  
9           services as "competitive" upon introduction and allow Qwest to  
10          promote its products and services with as much flexibility as its  
11          competitors enjoy [Id., p. 72-73].  
12

13       **Q.     Can you summarize Qwest's Competitive Zones proposal?**

14       **A.     Yes.** Qwest is proposing that the Commission,

15  
16          in recognition of the increasingly competitive telecommunications  
17          environment, classify specific wire centers, and geographic subsets  
18          within wire centers when appropriate, as "competitive zones."... [Id., p.  
19          73]  
20

21       Mr. Teitzel goes on to define a competitive zone as

22  
23          any wire center or geographic area in which customers receive  
24          communications services from at least one other provider that  
25          provisions service through the use of unbundled network elements,  
26          resale, or a provider's own facilities, including cable telephony [Id., p.  
27          74].  
28

29       **Q.     How many wire centers is Qwest proposing be classified as "Competitive zones"?**

30       **A.     Qwest** is proposing that each of the wire centers in the Phoenix and Tucson MSAs be classified  
31       as competitive zones. There are 63 Qwest wire centers in the Phoenix MSA and 19 in the

1 Tucson MSA for a total of 82 wire centers. In justification for these sweeping proposals, Mr.

2 Teitzel provides an Exhibit [DLT-17] which demonstrates that

3  
4 in each of the proposed competitive zones, at least one competitor  
5 provisions service through the use of Qwest wholesale services  
6 including unbundled network elements, resale, unbundled loops, and  
7 Local Interconnection Service ("LIS") trunks used to provide service  
8 over a provider's own facilities, such as in the case of cable telephony  
9 [Id., p. 78-79].  
10

11 **Q. Finally, what does Qwest say about the areas outside of Phoenix and Tucson?**

12 **A.** Qwest admits that

13  
14 at the present, local competition is generally not as significant in other  
15 areas of the state; therefore, existing contracting capability affords  
16 Qwest the flexibility it needs to respond with unique, customer-specific  
17 pricing proposals in these other areas, at least with respect to larger  
18 business customers. However, as competition develops in other areas  
19 of the state, establishment of additional competitive zones will be  
20 appropriate. In fact, the availability of Arizona Universal Service fund  
21 support to any Eligible Telecommunications Carrier (ETC), as  
22 discussed in Section II of my testimony, will likely encourage  
23 competitive service providers to enter areas that are typically more  
24 costly to serve than the metropolitan areas of the state. [Id., p. 79]  
25

26 **Q. What else does Qwest propose in light of this new competitive era?**

27 **A.** Qwest is also proposing

28  
29 that a streamlined process be adopted whereby all new services will  
30 automatically be classified as "competitive" upon introduction.  
31 Maximum rates will be established at that time [Id., p. 80].  
32

1     **Q.     What evidence has Qwest provided quantifying the extent to which it is facing**  
2     **increased competition?**

3     A.     Reductions in market share are the primary quantitative method used by economists to judge  
4     the extent to which competition has increased in a particular market. Qwest has not provided  
5     any evidence concerning the extent to which it has lost market share in any Arizona markets.

6             In his direct testimony, Mr. Teitzel focuses on Qwest line losses instead arguing that

7  
8             in February 2004, 35% of Qwest residential line losses within the 14-  
9     state Qwest region were in Arizona. The Phoenix and Tucson MSAs  
10    rank #1 and #3 in terms of competitive consumer line losses in the 14-  
11    state Qwest region....Forty-six of the top 50 wire centers in the Qwest  
12    region ranked by competitive loss fall within Arizona [Teitzel Direct, p.  
13    3].  
14

15            Teitzel then points out that the number of interconnection agreements has almost  
16    doubled since the adoption of the Price Cap Plan.

17  
18            In December, 2000, 65 interconnection agreements were in effect  
19    between Qwest and Arizona CLECs. As of February 2004, the  
20    Commission had approved 118 interconnection agreements, and  
21    another five were awaiting approval [Teitzel Direct, p. 4].  
22

23            Mr. Teitzel also provides wholesale provisioning data which purports to show that CLECs are

24  
25            repositioning away from simple resale of Qwest's retail products  
26    toward a strong focus on Unbundled Network Element (UNE)-based  
27    competition and a significantly greater reliance on serving local  
28    customers via CLEC-owned switches and unbundled loops to deliver  
29    competitive local exchange services [Teitzel Direct, p. 4-5].

1 Mr. Teitzel also cites specific line losses of over 19% of total retail lines, more than  
2 16% of primary residential lines, and 33% of additional residential lines [Teitzel Direct,  
3 p. 5-6].  
4

5 **Q. Has Qwest provided any additional information that sheds light on the status of**  
6 **competition in Arizona?**

7 A. Yes. Mr. Teitzel mentions specific competitors such as Cox, AT&T, and MCI which are now  
8  
9 providing service to both residential and business customers in Phoenix  
10 and Tucson over their own facilities or through the purchase of  
11 unbundled network elements from Qwest. Competitors are bundling  
12 local and long distance services into single packaged offerings [Teitzel  
13 Direct, p. 7].  
14

15 Moreover, Teitzel regards Cox as

16  
17 clearly one of Qwest's most significant competitors in the Arizona local  
18 exchange market. According to Cox, 200,000 Tucson and Green  
19 Valley households will be able to obtain Cable, Internet, Local Phone  
20 Service and Long Distance Service combined on one bill. Three years  
21 ago, Cox was just entering the Phoenix telecommunications market and  
22 was serving primarily business customers. [Teitzel Direct, p. 7-8].  
23

24 **Q. How are competitors targeting customers in Arizona?**

25 A. According to Mr. Teitzel, Qwest is facing

26  
27 significant competitive pressure in Arizona from facilities-based  
28 providers who target densely concentrated, high revenue residence and  
29 business customers. Facilities-based competitors such as Cox are



1 targeting large housing developments, offering packages of services,  
2 including cable telephony, features, high speed Internet, and video as an  
3 alternative to Qwest wireline service...In addition to competitive  
4 providers utilizing their own switches and loop facilities to deliver local  
5 exchange services, Qwest is also facing significant competition from  
6 competitors who purchase local wholesale connections from Qwest to  
7 deliver service with an emphasis on selling bundles rather than only  
8 basic local service. Resale, wireless, and new technologies such as  
9 VoIP are other forms of competition now being used to provide  
10 consumers with alternatives to Qwest's local exchange service [Teitzel  
11 Direct, p. 9].  
12

13 **Q. Qwest argues that wireless carriers provide consumers with "a clear alternative to**  
14 **Qwest wireline service for residential customers and smaller businesses." Do you**  
15 **consider wireless to be a direct substitute for Qwest wireline service?**

16 **A.** No. Because of important functional differences, the vast majority of consumers do not  
17 substitute wireless for wireline service or vice versa. For many customers, these services more  
18 closely meet the definition of complementary goods, rather than substitutes. Most people  
19 purchase both services, using their mobile phone in situations where it will function best and  
20 their conventional phone where it will function best. The very fact that so many people keep  
21 both phones (even if it requires them to double their expenditure on phone service) tends to  
22 prove that these services should not primarily be viewed as competitive alternatives. While  
23 some people can afford, and are willing to pay for, both a pickup truck and a car, very few  
24 people own two cars that are functionally identical. When someone owns two different  
25 vehicles, they tend to be functionally different (e.g., a family sedan and a convertible sports car,  
26 or a car and a pickup truck).

1     **Q.     Has Qwest provided any evidence of substitutability of wireless for wireline service?**

2     A.     No. Qwest only provides evidence that the number of wireless subscribers in Arizona exceeds  
3             the number of Qwest retail lines in the state

4  
5             According to the FCC's Trends in Telephone Service report, released  
6             May 6, 2004, there were 2,643,952 wireless subscribers in Arizona as  
7             of June 2003, a 10% increase from June 2002. To put this in  
8             perspective, Qwest had 2,554,856 retail access lines in service in  
9             Arizona as of June 2003 [Teitzel Direct, p. 58].  
10

11            Qwest provides no quantitative evidence that significant numbers of wireless customers  
12            disconnect their wireline service upon subscription to a wireless service. Unlike satellite and  
13            cable television services, the available evidence concerning consumer substitution patterns  
14            strongly suggests that wireless and wireline services are not close substitutes. From this  
15            evidence, it is reasonable to infer that wireless and wireline services are not close competitive  
16            substitutes, because they are not functionally equivalent from the perspective of most  
17            consumers. If the two services were functionally equivalent, they would tend to be redundant  
18            and thus most people would decide it is a waste of money to pay for both at the same time.

19            While a limited degree of substitution occurs in practice, these services are primarily  
20            complementary to each other. Some consumers stop purchasing Qwest's service when they  
21            obtain a mobile phone, but even these consumers do not necessarily consider these services to  
22            be "close substitutes." In the more typical situation, consumers will continue to use their wireline  
23            telephone after they get a mobile phone. In fact, their total volume of calling may increase, and  
24            there will be calls from their wireline phone to their mobile phone and vice versa. For instance,

1           they may start calling their spouse at home during their afternoon commute—calls that did not  
2           occur before they obtained wireless service. When shopping for groceries they can call home to  
3           find out whether they need to buy more of a certain item (or to obtain their spouse's opinion  
4           concerning which brand to buy). Rather than reducing the benefit of having a wireline phone at  
5           home, their mobile phone will serve a complementary function, increasing the value of that  
6           phone.

7  
8           *RUCO Position and Support*

9  
10          **Q.    The Company claims that dozens of carriers are now competing with Qwest in Arizona.**  
11          **How substantial is the competition?**

12          A.    If one judges by the number of announced *competitors*, it may seem substantial. However, if  
13               one judges by the extent to which these firms have actually entered the market and are actually  
14               persuading customers to try new carriers, the situation looks far different.

15               The sheer number of announced competitors by itself reveals very little at this early  
16               juncture. A lone whale doesn't get much competition from a school of minnows. Depending  
17               upon how many actual *customers* these firms have obtained, the level of revenues they are  
18               generating, and the extent to which these customers are profitable to serve (and thus the  
19               competitors are likely to remain viable) one can reach vastly different conclusions about the  
20               actual status of a market.

21               Consider, for example, how the situation would differ if new entrants are forced to sell  
22               their services below cost in order to overcome customer inertia, or to overcome customers'

1 perception that Qwest's offerings are the "safest" and most reliable choice. Under these  
2 circumstances, the economic barriers to entry may remain quite high, despite the nominal  
3 presence of a large number of entrants. The telling detail would be the extent to which the new  
4 firms have gained market share, and are likely to soon grow large enough to truly challenge  
5 Qwest's dominant position in the market.

6 In judging the extent to which barriers to entry have declined, the market share of the  
7 combined competitors – and the distribution of that market share in various geographic  
8 submarkets – can reveal much about the true state of the market.

9  
10 **Q. What is Qwest's current market share in Arizona?**

11 A. Nowhere in its prefiled case does the Company supply any evidence concerning this vital  
12 indicator of competitive conditions. However, internal data supplied by the Company in  
13 response to discovery confirm the obvious—the Company continues to enjoy quasi-monopoly  
14 status in most markets. The most recent data I have seen indicates that, as of May 2004, the  
15 Company's overall statewide market share was **\*\*\*Proprietary Proprietary\*\*\*** This  
16 provides an indication of the overall extent of competition in the state. This percentage was  
17 developed using a definition of "competition" which excludes wireless carriers since many  
18 customers consider wireless service to be complementary to traditional wireline service, rather  
19 than considering it to be a substitute or competitive alternative. To the extent some customers  
20 exclusively rely on a wireless phone in lieu of a wireline phone, these calculations arguably  
21 understate the intensity of competition. By including resale competition in this estimate, there is a  
22 tendency to overstate the intensity of competition. Resale competitors continue to provide

1 substantial wholesale revenues to Qwest, and they are limited in the extent to which they can  
2 place downward pricing pressures on the Company (since their costs are a direct function of  
3 Qwest's retail prices).

4  
5 **Q. Qwest wants to initially classify as competitive 82 wire centers in the Phoenix and**  
6 **Tucson MSAs. Has the Company provided its market share in these particular**  
7 **locations?**

8 **A.** No. Qwest apparently does not separately track market share for each wire center, nor has the  
9 Company provided any estimates of its overall market share in the group of wire centers it  
10 wants to classify as "competitive." While the Company has provided some limited information  
11 about competitive activity in these locations, the information provided isn't necessarily sufficient  
12 to conclude that competitive pressures are significantly greater in these wire centers than in  
13 other parts of the state, much less that competitive pressures have increased to the point where  
14 increased pricing flexibility is justified.

15 For instance, discovery responses provided by Qwest in this proceeding indicate that  
16 the Company has \*\*\*Proprietary Proprietary\*\*\* residence access lines in the 82  
17 wire centers that the Company proposes to immediately classify as competitive. This  
18 represents approximately \*\*\*Proprietary Proprietary\*\*\* of Qwest's total residential  
19 access lines. In contrast, competitive resellers are using \*\*\*Proprietary Proprietary\*\*\* of  
20 the Company's residential lines in these 82 wire centers, as of May 31, 2004. This represents  
21 approximately \*\*\*Proprietary Proprietary\*\*\* of the \*\*\*Proprietary  
22 Proprietary\*\*\* such lines being resold statewide. While the level of resale competition is

1 slightly higher in these wire centers, it certainly couldn't be considered significantly more intense  
2 than the level of resale competition in other parts of the state.  
3

4 **Q. Have you attempted to develop an estimate of Qwest's current residential market**  
5 **share in the wire centers it wishes to immediately declare to be "competition zones"?**

6 **A.** Yes. I have used information provided by Qwest through the discovery process, to estimate the  
7 Company's market share in the wire centers it wants to immediately convert to competitive  
8 zones. After considering these statistics, I estimate that competitors were providing service to  
9 perhaps **\*\*\*Proprietary Proprietary\*\*\*** residential lines in these 82 wire centers, as  
10 of May 2004. The data suggests that more than eight years after passage of the 1996 Telecom  
11 Act, the trend towards increased competition is still in its infancy. These estimates suggest that  
12 Qwest continues to overwhelmingly dominate the picture, with a residential market share of  
13 **\*\*\*Proprietary Proprietary\*\*\*** in the wire centers where it claims competitive  
14 pressures are the most intense.  
15

16 **Q. Have you reviewed any other data that can be useful in providing an overview of**  
17 **market conditions in Qwest's service territory?**

18 **A.** Yes. I have reviewed the FCC's latest Local Competition Report (LCR) and later in my  
19 testimony I will revisit the market share data obtained through discovery.  
20  
21  
22

1     **Q.     What does the FCC LCR indicate concerning the overall level of competition in**  
2     **Arizona?**

3     A.     According to the FCC LCR, the overall CLEC market share in Arizona was 21.8% as of  
4     December 2003. [Table 6, FCC LCR] This is more than quadruple the CLEC market share of  
5     5% reported by the FCC in 1999 [Table 7, FCC LCR]. This recent surge in CLEC market  
6     presence is consistent with the recent trend nationally; the nationwide CLEC market share also  
7     quadrupled from 1999 to 2003 (from 4% to 16%).

8  
9     **Q.     Why do the FCC LCR figures differ from Qwest's estimates?**

10    A.     One reason for the discrepancy (\*\*\*)**Proprietary           Proprietary**\*\*\* Qwest data vs.  
11    21.8% from the FCC LCR) is that the FCC figures are statewide averages and not confined to  
12    a single ILEC's territory. Since most CLECs have expanded into RBOC markets more  
13    aggressively than into areas served by other incumbents, one would expect the statewide FCC  
14    LCR market data to differ from the corresponding data for these other carriers (e.g., areas  
15    historically served by RBOCs like Qwest). Another reason for the difference is the FCC data  
16    captures market shares as of December 2003, while the Qwest estimates reflect more recent  
17    conditions (i.e., May, 2004). As well, the FCC's estimates only include carriers with at least  
18    10,000 lines in a state. [See FCC LCR Table 6 footnote.] While this has the potential for  
19    understating both ILEC and CLEC data, the discrepancy would be largest when comparing  
20    with data for a large ILEC like Qwest.

1           Total numbers reported by incumbent local exchange carriers (ILECs)  
2           filing FCC Form 477 may be slightly understated because smaller  
3           carriers are not required to report data. However, as the reporting  
4           ILECs account for about 98% of all ILEC lines, the understatement  
5           should not be large. (All ILECs, whether or not they normally report to  
6           the FCC, provide data on the number of telephone lines served to the  
7           National Exchange Carrier Association for use in conjunction with the  
8           Commission's universal service mechanism.) We are less certain about  
9           the extent to which comparable lines as reported by CLECs are  
10          understated as a result of the state-specific reporting threshold, but we  
11          expect such understatement to be larger, on a percentage basis, than  
12          for ILECs. [FCC LCR, p. 1, footnote 3]  
13

14           Needless to say, Arizona is not unique in this regard—small carrier data are excluded  
15          from all states in the FCC LCR. Table 1 below shows how Arizona compares to the other  
16          Qwest states and the nationwide totals, as of December 2003. These data suggest that  
17          competition in Arizona is somewhat more intense than, competition in other Qwest states.  
18  
19  
20  
21  
22  
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24  
25  
26  
27



**Table 5**  
**End-User Switched Access Lines**  
**in States Served by Qwest**  
**(As of December 31, 2003 per FCC LCR)**

State	ILECs	CLECs	Total	CLEC Share
Arizona	2,541,931	707,477	3,249,408	22%
Colorado	2,496,330	505,777	3,002,107	17%
Idaho	678,088	46,859	724,947	6%
Iowa	1,285,764	188,647	1,474,411	13%
Minnesota	2,453,860	581,239	3,035,099	19%
Montana	490,505	18,616	509,121	4%
Nebraska	736,105	199,498	935,603	21%
New Mexico	919,450	n/a	n/a	
North Dakota	275,457	25,039	300,496	8%
Oregon	1,813,627	249,701	2,063,328	12%
South Dakota	297,540	64,784	362,324	18%
Utah	993,796	241,454	1,235,250	20%
Washington	3,375,160	433,977	3,809,137	11%
Wyoming	238,045	n/a	n/a	
Total Qwest	18,595,658	3,263,068	20,701,231	16%
Total Qwest w/o AZ	15,815,682	2,555,591	17,451,823	15%
Nationwide	151,837,752	29,565,509	181,403,261	16%

1 **Q. Does the FCC LCR provide any clues concerning the composition of the roughly 22%**  
2 **of statewide lines the CLECs are serving in Arizona?**

3 A. Yes. Table 10 of the FCC LCR shows that 50% of the CLEC lines in Arizona are purely  
4 facilities-based (using loops that are self-provided) and 33% are UNE-based (including both  
5 UNE-P and UNE-L). The remaining 17% of CLEC lines are provided through resale of the  
6 ILEC's retail services; as noted earlier, this portion is relatively insignificant to the issues in this  
7 proceeding, since these CLECs are not in a position to place downward pricing pressure on  
8 Qwest. If the Commission allows the Company to increase its retail rates, this will automatically  
9 increase the wholesale costs incurred by these carriers, and therefore these firms will most likely  
10 increase their prices as well.

11  
12 **Q. How does this competitive mix compare to other states?**

13 A. Table 6 below provides this comparison. With respect to facilities-based competition, Arizona  
14 represents over 30% of facilities based lines in Qwest's 14 state territory.

**Table 6**  
**CLEC-Reported End-User Switched Access Lines By State**  
**(As of December 31, 2003 per FCC LCR)**

State	CLEC-Owned (%)	UNEs (%)	Resold Lines (%)
Arizona	50	33	17
Colorado	32	44	24
Idaho	7	n/a	n/a
Iowa	20	72	8
Minnesota	29	50	21
Mississippi	4	68	28
Montana	77	n/a	n/a
Nebraska	65	21	14
North Dakota	26	69	5
Oregon	15	66	19
South Dakota	54	45	1
Utah	30	40	29
Washington	33	42	25
Wyoming	n/a	n/a	n/a
Total Qwest	35	44	20
Total w/o AZ	31	47	20
Nationwide	23	61	16

**Q. Based on this data can you summarize the overall status of competition in Arizona?**

**A. Yes. The available empirical evidence indicates that Qwest continues to enjoy dominant**

positions in many local markets, which are at least partially protected by substantial barriers to entry. Although competition has been increasing—particularly in business markets—Qwest continues to enjoy a very large share of the market (see Table 7 below).

Data provided during discovery shows that Qwest is experiencing substantial market share losses in Phoenix and Tucson, but it continues to dominate most Arizona local exchange markets. In some markets competitors have been quite successful in winning customers; in other cases, relatively few competitors have been attracted into the market, or they have not been very successful in winning a share of the market. Effective competition might already be present for some services in some Arizona wire centers, and it may be realized in other markets in the relatively near-term future. However, the prospects for intense competition in other areas seem to be little more than a possibility on the distant horizon.

Successful competitive entry is not easy anywhere; but in some locations entry barriers are higher than in other areas—and potential entrants have not made much of an effort to hurdle those daunting barriers.

**Table 7**  
**CLEC Market Share as of December 31, 2003**  
**per Qwest data**  
**\*\*\*Proprietary\*\*\***

	<b>Total</b>	<b>Business</b>	<b>Residential</b>
CLEC market share in Qwest's Area			

1     **Q.     You have indicated that varying levels of competition exist across Qwest's serving**  
2     **territory. Can you elaborate on this point?**

3     A.     Yes. Most large ILEC service territories cover a very large geographic area which  
4     encompasses a range of different market conditions. Even within the same local calling area or  
5     local exchange there can be extreme differences between the operating and engineering  
6     characteristics of wire centers in the downtown urban core and the characteristics of the  
7     outlying wire centers. In turn, these differences can translate into substantial differences in the  
8     costs and difficulties involved in serving customers in different wire centers.

9             The most obvious example of these differences concerns the unbundled UNE loop  
10    rates; lower rates tend to apply to urban wire centers while higher rates apply to rural wire  
11    centers. But differences in UNE loop rates are just the tip of the iceberg. There may be even  
12    more dramatic percentage differences in non-loop costs when comparing the cost per line of  
13    serving customers using a CLEC switch in urban and rural wire centers (e.g., due to differences  
14    in available economies of scale with respect to inter-office transport facilities and collocation  
15    facilities).

16            Similarly, the mix of high revenue customers and low revenue customers may differ  
17    throughout a service territory. Hence, CLECs may confront entirely different conditions in  
18    considering the potential for using their own switch to serve mass market customers in different  
19    parts of a service territory. For instance, revenues from some services (e.g., custom calling)  
20    may be lower in some small towns relative to some urban areas, due to differences in demand  
21    characteristics and/or income levels. As well, marketing and sales costs can sometimes be  
22    higher in small towns and rural areas. For instance, marketing options may be relatively limited,

1 and entrants may be forced to expend precious advertising dollars on television and media  
2 coverage areas that are far wider than the intended target market.

3 As a result of differences in the underlying characteristics of each geographic area and  
4 differences in the mix of customers that are present in each area, competitive pressures will vary  
5 widely within a single ILEC's service territory. In general, one would expect to see lower  
6 barriers to entry and more intense competitive pressures in downtown urban areas, with higher  
7 barriers to entry and weaker competitive activity in rural areas. Similarly, it is reasonable to  
8 anticipate that competitive carriers will focus, at least initially, on concentrations of customers  
9 that use large volumes of telecommunications services (sometimes referred to as "enterprise"  
10 customers).

11  
12 **Q. You have testified that CLECs tend to disproportionately focus on serving enterprise**  
13 **customers. Do you have any data that show more specifically where the enterprise**  
14 **customers are located within the Qwest service territory?**

15 **A.** Yes. Publicly available access line count data demonstrate that a higher proportion of  
16 enterprise lines exists in the higher density wire centers. Although it is somewhat dated, public  
17 information concerning geo-specific line counts and line densities is available within the FCC's  
18 Synthesis or Hybrid Cost Proxy Model (HCPM), which the FCC uses to administer the federal  
19 Universal Service Fund (USF). This information can be downloaded from the FCC's website  
20 at <http://www.fcc.gov/wcb/tapd/hcpm/>. I used data from this model to estimate the extent to  
21 which enterprise customers are present in each of Qwest's wire centers in Arizona. For ease  
22 of use, I analyzed the data in the following manner: Single-line business lines were subtracted

1 from total business lines to develop an estimate of multiline business lines. Voice grade  
2 equivalent special access lines were then added to the latter number in order to develop an  
3 estimate of the total number of enterprise lines in each area. This estimate was divided by total  
4 lines (including voice grade equivalent special access lines), to develop the "enterprise ratio" or  
5 the relative proportion of enterprise lines present in each wire center. Table 8 shows the results  
6 of these calculations in summary format. As shown, enterprise lines tend to be most prevalent in  
7 wire centers that serve the more urbanized, higher density parts of the state.

8  
9 **Table 8**  
10 **Ratio of Enterprise Lines by Varying Density**  
11

Wire Center Density (lines per square mile)		Enterprise Ratio
0	25	0.14
26	50	0.26
51	100	0.26
101	200	0.32
201	400	0.41
401	800	0.28
801	1600	0.39
1601	3200	0.42
Greater than	3200	0.60
Overall		0.44

1     **Q.     Are there other publicly available data that can also be used to demonstrate the**  
2     **existence of heterogeneity within Qwest's Arizona service territory?**

3     A.     Yes. Table 9 demonstrates the existence of substantial differences in monthly per line costs by  
4     wire center. Just as I used data from the FCC's universal service cost model to estimate the  
5     extent to which enterprise customers are present in each of Qwest's wire centers in Arizona, I  
6     used data from the same model to provide an indication of the potential for variation in the  
7     average monthly costs incurred by Qwest in serving customers in different wire centers.

8             While there are many different factors that can lead to cost differences, I have sorted  
9     FCC cost model data in accordance with line density, since this is one of the more obvious  
10    factors that contributes to these cost differences. While the cost figures do not capture all of the  
11    relevant costs incurred by CLECs that vary geographically, they do provide some confirmation  
12    of the potential for widely varying cost conditions within the state.



**Table 9**  
**FCC Model Monthly Per Line Costs**  
**by Varying Density**

Wire Center Density (lines per square mile)		Monthly Costs
0	25	\$86.09
26	50	\$46.63
51	100	\$35.22
101	200	\$27.70
201	400	\$22.92
401	800	\$21.69
801	1600	\$19.31
1601	3200	\$18.30
Greater than	3200	\$16.44
Overall		\$20.16

While I do not have specific data to offer regarding the internal costs incurred by CLECs, it is important to remember that there can be even more substantial differences in the per-line costs incurred by facilities-based CLECs, due to the impact of spreading the fixed cost of collocation and transport facilities over widely varying numbers of lines. Collocation costs that represent a small amount per line in a large urban wire center might represent a very large amount per line in a rural wire center. In general, in smaller wire centers, for a CLEC serving a small percentage of the market, the fixed costs of collocation and transport facilities can be too high for facilities-based entry to be a viable option.

1     **Q.     How do these cost differences relate to different levels of competition?**

2     A.     In general, one would expect that areas with low density and high per-line costs will see less  
3           competitive entry than areas with high density and low per-line costs. In the absence of a state  
4           USF which adequately alleviates the high costs of serving rural customers, there is relatively  
5           little potential for competition in the lower density, higher cost parts of the state.

6                 In general, it is reasonable to anticipate that Qwest will continue to face the greatest  
7           competitive pressures in areas with the highest line density.

8  
9     **Q.     Have you prepared any other analyses showing the extent to which local exchange  
10           markets in Arizona have moved away from monopoly towards effective competition?**

11    A.     Yes. For this purpose I relied upon two statistics – the four-firm concentration ratio and the  
12           Herfindahl-Hirschmann Index (HHI). In general, a market that exhibits a high four-firm  
13           concentration ratio will be more monopolized, and less competitive, compared to a market that  
14           exhibits a low ratio. If the top four firms control more than 70% of the market, it is unlikely that  
15           competition will be fully effective. Rather, the largest one or two firms will often dominate the  
16           industry, while smaller firms follow the leader(s). The extent to which market performance falls  
17           short of the competitive ideal will depend upon specific circumstances, including the presence  
18           or absence of barriers to entry and the distribution of market shares (which is not fully indicated  
19           by the four-firm concentration ratio).

20                 The HHI also provides useful insight into market structure and market power.  
21           Economists use this statistic because it reflects the well-established fact that where industry  
22           sales are highly concentrated in a small number of firms, the largest firms tend to have market

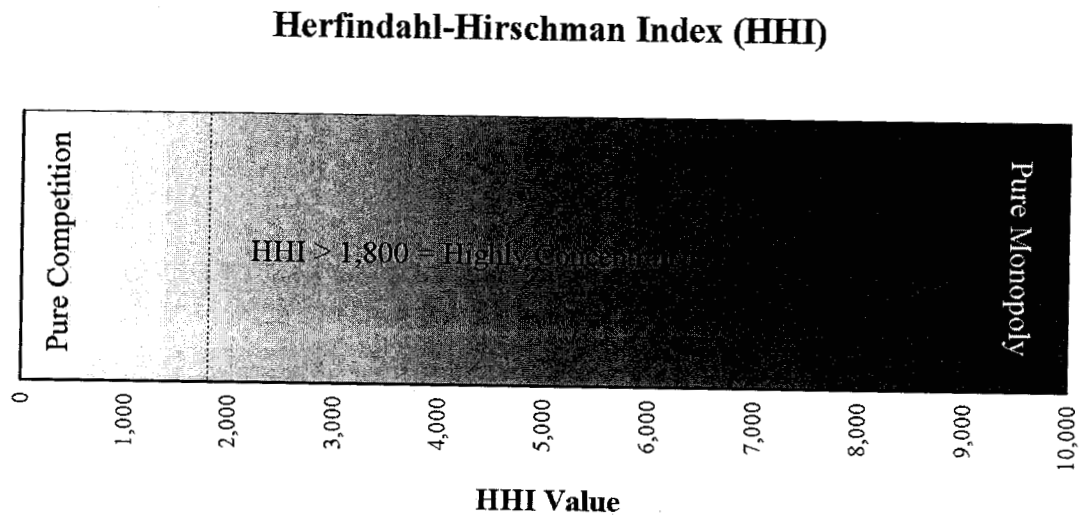
1 power, and market results tend to deviate greatly from the purely competitive benchmark.

2  
3 **Q. Can you elaborate on the rationale behind the HHI analysis?**

4 **A.** Yes. The HHI has long been used by the Department of Justice (DOJ), the Federal Trade  
5 Commission (FTC), and others involved in analyzing antitrust and other market structure issues  
6 from a public policy perspective. For example, the Merger Guidelines adopted by DOJ specify  
7 that: 1) HHIs below 1,000 indicate that the market is "unconcentrated"; 2) HHIs between  
8 1,000 and 1,800 indicate that the market is "moderately concentrated"; and 3) HHIs above  
9 1,800 indicate the market is "highly concentrated," as indicated on illustrative Graph 3. [1997  
10 Horizontal Merger Guidelines, §1.51] Where a high HHI is present, or a merger would  
11 significantly increase the HHI, DOJ is less likely to approve a proposed merger or acquisition.

12 To compute the HHI, the market share (expressed in percentage points) of each firm in  
13 the relevant market is squared and then totaled. Thus, if a single firm controls 100% of the  
14 market, the HHI is equal to 100 times 100, or 10,000. If 10 firms each have a market share of  
15 10%, the HHI is 1,000. If the market contains thousands of very small firms, each with a  
16 minuscule market share, the HHI can potentially approach zero. Accordingly, potential HHI  
17 values range from 0 to 10,000, with a value near zero indicating pure competition and a value  
18 near 10,000 indicating a pure monopoly. While these values represent the extreme points, the  
19 HHI is best interpreted as a continuum, with varying levels of concentration being indicated by  
20 different numerical values along this continuum. Not only does the HHI provide a sound basis of  
21 judging where a market stands on the continuum from pure competition to pure monopoly, it is  
22 particularly useful because it captures in a single number the extent to which sales are

**Graph 3**



**Graph 4**

(See Exhibit 2)

1 concentrated in a small number of firms as well as the distribution of market shares across  
2 multiple firms.

3  
4 **Q. Have you prepared detailed market share and HHI calculations?**

5 A. Yes. I have prepared a variety of different calculations, including estimated Total, Business, and  
6 Residential market shares, 4-firm concentration ratios, and HHIs for each Qwest Arizona wire  
7 center. The results are depicted on Schedules 4 and 5 attached to this testimony.

8  
9 **Q. What is the four-firm concentration ratio for Qwest's Arizona service territory?**

10 A. Using data acquired through the discovery process, I estimate that the four-firm concentration  
11 ratio for Qwest's Arizona service territory as a whole exceeds 87%. As I stated earlier, a four-  
12 firm concentration ratio in excess of 70% suggests a market that, in all likelihood, falls well short  
13 of effective competition. Clearly, the Qwest service territory as a whole is not effectively  
14 competitive.

15  
16 **Q. Are any of the CLECs using their own facilities to compete with Qwest?**

17 A. Yes. Table 7 above shows the overall CLEC market share is approximately \*\*\***Proprietary**  
18 **Proprietary\*\*\***. As shown in Table 10 below, a majority of this competitive activity is  
19 from facilities-based carriers.

**Table 10**  
**Competitive Activity in**  
**Qwest's Service Area**  
**\*\*\*Proprietary\*\*\***

	<b>CLEC Total Market Share</b>	<b>UNE- L/EEL</b>	<b>UNE-P</b>	<b>Resale</b>	<b>Facilities- Based</b>
Entire Qwest Area					
Qwest Competitive Zones					

**Q. Can you describe the process you used to estimate HHIs?**

A. Yes. For the Total HHI I first calculated Qwest's retail switched access lines by wire center as of June 30, 2004 using data obtained through discovery (RUCO 02-027S1 HIGHLY CONFIDENTIAL ATTACHMENT A.xls column F).

**Q. Did you make any adjustments to the Qwest data?**

A. Yes. While reviewing RUCO 02-029S1 CONFIDENTIAL ATTACHMENT A.xls I learned that the switched access line counts include resold lines. I removed these lines to avoid double counting and to more accurately represent Qwest's market share in any given wire center.

**Q. What data did you use to estimate CLEC lines in each wire center?**

A. I asked Qwest to provide an estimate of competitive switched access lines by CLEC by Qwest

1 wire center. In response, Qwest provided Resale data as of May 31, 2004 by CLEC by wire  
2 center (Highly Conf AZ RUCO 02-035 Att A.xls). Qwest also provided UNE-L and EEL  
3 lines as of May 31, 2004 (Highly Conf AZ RUCO 02-033 Att A.xls), UNE-P lines as of May  
4 31, 2004 (Highly Conf AZ RUCO 02-033 Att A.xls), and an estimate of Facilities Based lines  
5 as of December, 2003 (RUCO 02-38 Highly Confidential Attachment A.xls) by CLEC and by  
6 wire center.

7  
8 **Q. How did you use this data?**

9 A. The Resale, UNE, and Facilities Based line count data were combined and analyzed for each  
10 Qwest wire center. The line counts for Qwest and the individual CLECs were summed across  
11 each wire center to arrive at an estimate of total retail lines available to end users in each Qwest  
12 wire center.

13  
14 **Q. You mention the facilities based lines provided by Qwest were estimated. Can you**  
15 **please elaborate?**

16 A. Yes. The facilities based line counts I have included in this analysis were estimated by Qwest.  
17 As Qwest explains in their discovery response

18  
19 only the CLECs, not Qwest, know precisely the number of local  
20 exchange access lines being served via CLEC-owned loop facilities...  
21 However, Qwest can estimate the number of CLEC-owned loop  
22 facilities based on Local Interconnection Service (LIS) trunk quantities  
23 identified in Confidential Exhibit DLT-17 to Mr. Teitzel's direct  
24 testimony. [Qwest Supplemental Response 07/30/04, RUCO 02-  
25 038S1].

1 Qwest assumes that each LIS trunk supports approximately 2.75 local access lines and

2 further explains the estimating procedure by noting that

3  
4 LIS trunks are utilized by CLECs to exchange end user calling traffic  
5 between CLEC switches and ILEC switches. The end users in this  
6 instance may be served either by CLECs using CLEC-owned loops or  
7 by CLECs using UNE loops purchased from the ILEC. To estimate the  
8 number of CLEC owned in each Qwest Arizona wire center, the  
9 number of LIS trunks is multiplied by 2.75, then the number of UNE  
10 loops being used by CLECs in those wire centers can be subtracted  
11 from that number. The remainder can be used as an estimate of CLEC  
12 owned loops [Qwest Supplemental Response 07/30/04, RUCO 02-  
13 038S1].  
14

15 **Q. What is the HHI for Qwest's local exchange market in Arizona?**

16 A. Based upon the Qwest market share data, I estimate that the overall HHI in the area served by  
17 Qwest in Arizona is \*\*\*Proprietary Proprietary\*\*\*. Graph 4 shows where this  
18 estimated HHI level falls along the overall continuum from pure competition to pure monopoly.  
19 As shown, the HHI in the average Qwest exchange remains relatively close to near-monopoly  
20 levels, suggesting these markets are still highly concentrated. While the overall picture remains  
21 relatively close to quasi-monopoly conditions, the picture is not the same throughout the state,  
22 nor is it the same in residential and business markets.  
23

24 **Q. Did you estimate residential and business specific HHIs for each Qwest wire center?**

25 A. Yes. I used Qwest residential and business listing data to estimate CLEC residential and  
26 business lines in each Qwest wire center. Qwest provided these data in HIGHLY CONF AZ



1           STF 3.20 ATT B.xls. Specifically, I calculated the Qwest ratio of residential lines per  
2           residential listing and business lines per business listing. This allowed me to estimate CLEC  
3           residential and business facilities based lines by CLEC by wire center from the CLEC listing  
4           data.

5           Differences exist between the business and residential markets, although both remain  
6           highly concentrated. For the average exchange in Qwest's Arizona service territory, based  
7           upon public data, I estimate that the Business HHI is **\*\*\*Proprietary**  
8           **Proprietary\*\*\*** while the Residential HHI is **\*\*\*Proprietary**       **Proprietary\*\*\***.

9  
10       **Q.   What do these analyses demonstrate?**

11       A.   Since I relied on Qwest's estimates concerning facilities based carriers, it is impossible to be  
12       perfectly precise in these calculations. Still, they are sufficient to provide a sense of current  
13       market conditions, and the degree to which competition is more heavily concentrated in certain  
14       markets. While conditions have dropped below pure-monopoly levels, most wire centers  
15       remain well above the 1,800 benchmark which the DOJ and FTC use as a guideline in  
16       evaluating highly concentrated markets.

17           If a similar analysis had been performed 8 years ago, the calculated local exchange HHI  
18       would have been close to 10,000 for both residential and business. Competitive pressures have  
19       clearly increased since adoption of the 1996 Telecom Act, but the increase has not been as  
20       rapid, or as substantial, as many observers were anticipating at that time, given the sweeping  
21       changes portended by the 1996 Telecom Act. The data suggest that nearly 9 years after  
22       adoption of the 1996 Telecom Act, relatively low levels of competitive penetration have

1 occurred in many markets. Within some rural areas Qwest continues to enjoy near-monopoly  
2 levels of market dominance, whereas in some urban business markets the HHI is approaching  
3 the 1,800 benchmark used by the DOJ and FTC. In fact, the estimated business HHI in the  
4 Phoenix Main wire center is below 1,800.

5 The relatively slow rate of decline in concentration, combined with the striking lack of  
6 entry efforts by most of the strongest, best qualified firms (e.g., the failure of other ILECs like  
7 BellSouth or SBC to aggressively enter Qwest's territory) strongly suggests the continued  
8 existence of substantial barriers to entry, particularly in the less urbanized parts of the state.  
9 These barriers are discouraging entry and delaying the transition to effective competition. There  
10 is still reason to be optimistic that the trend towards more intense competition will continue, and  
11 perhaps accelerate. If so, competition will eventually become a more complete and effective  
12 alternative to regulation. However, it is too early to predict when this will occur or to reach any  
13 definitive conclusions about whether competitive carriers will ever be able to exert enough  
14 downward pricing pressure to eliminate the need for strong, effective regulation in some  
15 markets.

16  
17 **Q. Can you again place these HHI statistics in context with the Merger Guidelines?**

18 **A.** Recall that an HHI near zero indicates a market that is purely competitive and an HHI near  
19 10,000 indicates a market that is purely monopolistic. Qwest's competitors face substantial  
20 barriers to entry and exit, and they cannot serve additional customers without incurring  
21 substantial additional costs. Thus, there is no basis for assuming they can stop Qwest from  
22 exercising its market power.

1           To the contrary, there is good reason to assume that the Company still has considerable  
2           market power within most of its Arizona service territory, as indicated by the fact that the  
3           Company still serves more than \*\*\*Proprietary       Proprietary\*\*\* of the market in its  
4           service area.

5  
6       **Q.    Would you please briefly state your conclusions regarding the Company's competition**  
7       **arguments?**

8       A.    In evaluating the extent to which barriers to entry have diminished in the Arizona market and  
9           whether that market has moved toward effective competition, the telling evidence is the extent  
10          to which the new firms have actually attempted to enter various markets, and have been  
11          successful in gaining a substantial share of the market. I have presented a host of data that  
12          demonstrate that CLECs nationally, and in Arizona, have had only limited success in gaining  
13          market share from the respective incumbent provider. Overall CLEC market share in Arizona  
14          remains relatively low in many areas. The HHI in most Qwest exchanges in Arizona is far  
15          above the 1,800 standard that traditionally defines a market that is "highly concentrated." And  
16          none of the RBOCs have made any substantial effort to enter into any Arizona local exchange  
17          markets.

18  
19       **Q.    What is your overall impression of the status of competition in Arizona local exchange**  
20       **markets?**

21       A.    The 82 wire centers identified by the Company have seen more competitive activity than some  
22           other parts of the state, but even in these areas, the trend towards increased competition is at a

1           very early stage. I expect competitors will continue to refine their business plans, and will  
2           increasingly gain credibility with customers. Over time, they can be expected to provide an  
3           increasingly more significant competitive challenge to Qwest. However, even the most  
4           generous interpretation of the market data suggests that competitive entry is not an easy  
5           process, and it will be quite a while before Qwest no longer dominates the market in most parts  
6           of the state.

7           If the existing system of regulation were truly hamstringing Qwest's ability to respond to  
8           competitive pressures, if barriers to entry had truly declined by as much as the Company  
9           implies, and if asymmetrical regulation were truly placing the company at a severe disadvantage  
10          (e.g., because the Company can't cut prices in response to competitors), the competitors'  
11          market share would be much larger, and the Company's share of the market would be  
12          declining much more rapidly than it actually has. Further, in such an environment, I would not  
13          expect that Qwest would pursue policies that would result in increased rates and, as a result,  
14          even greater market share losses. Such policies would exacerbate the Company's competitive  
15          disadvantage in the market. Instead, I would expect the Company to enact rate reductions in  
16          order to respond to increasing competitive pressures, rather than pursue pricing flexibility that it  
17          could then use to increase rates. Aside from TSLRIC price floors, nothing about the existing  
18          system of regulation prevents Qwest from pursuing policies that would result in lower rates for  
19          consumers and a more effectively competitive Company.

20          While the data supplied by the Company has limitations and ambiguities which make it  
21          difficult to fully evaluate market conditions, it is more than sufficient to confirm the obvious: it is  
22          not yet time to being thinking about deregulating the Company, or providing it with the type of

1 extreme pricing flexibility that it seeks in this proceeding. Qwest continues to enjoy a dominant  
2 share of most Arizona telecommunications market, and its competitors are far too small to  
3 provide an adequate substitute for continued regulatory oversight by the Commission.

4  
5 **Q. Would you please elaborate upon why the current market share data argues against**  
6 **giving Qwest all of the pricing flexibility it seeks?**

7 **A.** Yes. An effectively competitive market cannot emerge until barriers to entry have been lowered  
8 and customers perceive the competitive offerings as adequate substitutes for the services  
9 provided by the dominant carrier. The extent to which barriers to entry persist, and the extent  
10 to which customers accept the competitive offerings as viable substitutes for those of Qwest is  
11 shown by, *inter alia*, by the way they behave in the marketplace. Until customers actually  
12 change carriers, and are satisfied with the service provided by the new entrants, there is no  
13 empirical basis for assuming that the market has successfully completed the transition from  
14 monopoly conditions to effective competition.

15 Legal barriers to entry were largely eliminated with passage of the 1996 Federal Act,  
16 and many economic and technical barriers to entry are being reduced over time. However, this  
17 does not mean that the remaining barriers to entry are insignificant. To the contrary: the 1996  
18 Federal Act is now more than eight years old, yet the transition to effective competition is still at  
19 a relatively early stage. This is confirmed by many indicators, including the fact that very few  
20 customers have ever seriously contemplated changing their local carrier, and the fact that the  
21 total number of competitive local exchange carriers operating in Arizona is much lower than the  
22 analogous number of competitive long distance providers.

1           Even more tellingly, local competitors have not yet enjoyed much success in actually  
2           penetrating the local exchange market, developing a market presence, gaining customers, or  
3           building revenues. Despite all the rhetoric and impressive sounding announcements, the actual  
4           level of market penetration is very modest, as indicated by the Company's market share.

5           The mere fact that a certain number of "warm bodies" have shown up and announced  
6           their intention to offer local telephone service is not indicative of the extent to which meaningful  
7           "entry" is actually occurring or the extent to which customers are willing to accept these firms'  
8           offerings as viable substitutes for those of their existing carrier. It is one thing to claim that a  
9           market is potentially "contestable"; it is another (and far more significant) thing to show that  
10          barriers to entry have largely or entirely been eliminated, or to show that the market is in fact  
11          being successfully contested.

12          Government price regulation has historically been imposed on firms like Qwest as a  
13          substitute for effective competition. In fact, one of the key economic principles underlying  
14          traditional rate of return regulation was the premise that regulation should attempt to simulate  
15          the results of effective competition. The mere presence of new entrants is not sufficient to justify  
16          eliminating the protections afforded by regulation. Regulation should be relaxed, or withdrawn,  
17          as competitive conditions intensify to the point where customers no longer need the protections  
18          it affords. Stated differently, as market conditions evolve, providing customers with more and  
19          more of the benefits of effective competition, (including protection from price gouging), the role  
20          of regulation should evolve and diminish. But, regulatory protections should not be removed  
21          prematurely.

**V. Response to Qwest Proposals and Recommendations for Action**

**A. Baskets and Competition**

**Q. In section one of your testimony, you outlined how services are assigned to baskets under the current Plan and how they would be assigned to baskets under Qwest's proposed Plan. What is RUCO recommending with respect to baskets?**

**A.** RUCO recommends adopting a series of changes to Qwest's current Plan, including a few aspects of its proposed Plan, as well as some new concepts.

Under the current Plan, services are assigned to one of three baskets based upon their individual characteristics. For example, the Wholesale Services basket contains just what the name implies -- wholesale services including

Intrastate Carrier Switched Access, Discounted Wholesale Offerings, Unbundled Network Element (UNE) Offerings, Wholesale services such as PAL lines, and all other wholesale offerings unless specifically listed in Attachments C and E as included in either Basket 1 or 3.  
[Current Plan, 3.a.]

Under the proposed Plan, services would continue to be assigned to the same three baskets, but the flexibility afforded the Company in pricing the services within those baskets is altered significantly. Mr. Shooshan states that the approach used in the proposed Plan "will provide it [Qwest] with a reasonable opportunity to compete more effectively in the very competitive market in Arizona." [Shooshan Direct, p. 4]

1           RUCO agrees with Qwest that competitive conditions in the state have intensified since  
2           the Commission approved the current Plan, but we believe a more appropriate response is to  
3           modify the basket structure, in order to better align services with similar competitive  
4           characteristics. More specifically, RUCO recommends establishing three baskets: Moderate  
5           Pricing Flexibility Services; High Pricing Flexibility Services; and Total Pricing Flexibility  
6           Services.

7           Services should be assigned to these three baskets primarily on the basis of the intensity  
8           of the competitive pressures currently being faced by Qwest. The assignment of services would  
9           not necessarily be accomplished on a statewide basis. To the extent competitive conditions vary  
10          for some services across the state, those services would be split into multiple baskets,  
11          consistent with the competitive conditions applicable to each geographic area. In determining  
12          the most appropriate assignment of each service, the Commission could also consider other  
13          relevant factors, including public safety or other public interest concerns, evidence that  
14          competition is likely to intensify or diminish in the future, and evidence that viable substitutes are  
15          available for those customers who would be unwilling or unable to use a competitive offering, if  
16          the price of the service in question were to be increased substantially.

17  
18       **Q. Can you explain why you believe RUCO's recommended approach is an improvement**  
19       **over the current Plan?**

20       **A.** Yes. By aligning the degree of pricing flexibility with the degree of competitive intensity, the  
21       Commission can further the goals of the 1996 Telecom Act while also protecting customers  
22       from Qwest's remaining market power.



1           The 1996 Telecom Act is designed to encourage greater competition, and it declared  
2           invalid all state rules that restricted entry or otherwise limited competition in telephone service.  
3           Since the development of competition for telephone services was one of the primary goals of  
4           the 1996 Telecom Act, and since competition for some services has grown considerably in  
5           recent years, it is reasonable to use competitive conditions as the primary basis for assigning  
6           services to baskets.

7           By including three baskets, it is feasible to provide greater protection to consumers  
8           while also giving the Company greater pricing flexibility. The High Pricing Flexibility Services  
9           basket provides the Company with substantial pricing freedom, while placing reasonable  
10          limitations on that flexibility, appropriate to the transitional period when Qwest may continue to  
11          enjoy a significant degree of monopoly power. The rules applicable to this basket can limit the  
12          abuse of this power, to the extent competitive forces alone are not strong enough to fully  
13          protect customers.

14  
15       **Q.   How do you propose to determine which services should go into each basket?**

16       **A.**   Each service, and each geographic area, should be analyzed based on available evidence  
17          concerning their competitive characteristics. Services can be distinguished based on their  
18          technical characteristics, the location of customers, the type of customers that typically purchase  
19          each service, the number of carriers providing the service in each area, the extent to which  
20          these carriers rely upon their own facilities, the extent to which competing carriers rely on  
21          Qwest's facilities in providing the service, market share data, and other relevant evidence.

22          This analysis should be performed on a fairly granular basis. For example, there are

1 differences in the competitive status of residential and business basic exchange service.

2 Although residential and business customers sometimes purchase very similar products, their  
3 competitive status can differ greatly. From an economic perspective, it is appropriate to  
4 recognize that residential and business customers often purchase services in distinct product  
5 markets (or sub-markets). Hence, residential and business local exchange services may  
6 appropriately be placed in different baskets, even though the same facilities are sometimes used  
7 in providing these services, since the underlying market conditions, including typical rate  
8 structures, rate levels and gross profit margins, are so different.

9 In the course of this analysis, the heterogeneity of competitive conditions and other  
10 service characteristics should be considered in their totality. For example, a particular service  
11 purchased by a business customer in a metropolitan center may or may not have similar  
12 competitive characteristics to the same service being offered in a rural area, depending upon the  
13 actual extent to which other carriers are successfully competing in providing this type of service  
14 in each respective area. By allowing for the possibility that geographic heterogeneity exists, the  
15 competitive nature of individual services can properly be evaluated, and the Commission can  
16 avoid unduly limiting Qwest's pricing freedom in the most competitive parts of its service  
17 territory (or unduly subjecting customers to abuses of monopoly power in the least competitive  
18 parts of its service territory).

19  
20 **Q. Can you please elaborate on how competitive conditions can be evaluated and services**  
21 **assigned to specific baskets?**

22 **A.** Yes. Before granting increased pricing flexibility, I recommend the Commission evaluate

1 competitive conditions on three levels. First, it should conduct a broad examination of the status  
2 of competition in general, to provide a sound foundation for other, more detailed analyses. In  
3 the course of this broad examination, the Commission should look at data for Qwest relative to  
4 other carriers (operating in Arizona and elsewhere). Second, the Commission should evaluate  
5 data concerning general business and residence market conditions on a geographically specific  
6 basis—preferably examining data for individual wire centers. Third, the Commission should  
7 evaluate data concerning specific services. To the extent feasible, this examination can also be  
8 conducted on a geographically specific basis; however, to the extent this is not feasible, the  
9 Commission can apply sound judgment in evaluating the joint implications of its service-specific  
10 and wire center-specific analyses.

11  
12 **Q. Is this approach similar to the “competitive zones” in Qwest’s proposed Plan?**

13 **A.** Yes. The approach to assigning services to baskets that I have outlined in this section is similar  
14 to Qwest’s competitive zones insofar as both are meant to account for the geographic  
15 heterogeneity of competitive conditions. RUCO’s approach is somewhat more complex and is  
16 considerably less sweeping in its likely impact, however. Because an evaluation of actual  
17 market conditions is required before increased pricing flexibility is granted, there is much less  
18 risk that excessive pricing flexibility will be granted in markets where Qwest still enjoys  
19 substantial market power.

1     **Q.     What types of data can be used to perform the competitive analysis you have**  
2           **described?**

3     A.     Earlier in my testimony I provided some examples of the types of public data that are available.  
4           In addition, a variety of different types of proprietary or confidential data can be relied upon. In  
5           general, the first priority is to estimate the market shares held by the incumbent carrier and  
6           competitive carriers. In evaluating the extent to which competition for a particular service is  
7           substantial, the most telling evidence is the extent to which competing carriers have already  
8           been successful in obtaining a substantial market share. For any given service, if the incumbent  
9           continues to enjoy an overwhelmingly large market share relative to the new entrants, it would  
10          generally not be appropriate to remove pricing controls on that service.

11                 One simple and useful way of interpreting market share data is to focus on the four-firm  
12          concentration ratio, which I mentioned earlier in my testimony. If the largest four firms  
13          collectively serve nearly 100% of a market, the Commission needs to be concerned about the  
14          potential for a cooperative oligopoly market structure, where the smaller firms all follow the  
15          leader's pricing decisions, increasing their prices whenever the leader increases its prices.  
16          Needless to say, if the four-firm concentration ratio is very high, it would not be prudent to  
17          immediately place a service in the Total Pricing Flexibility Services basket. Instead, it would be  
18          more appropriate to grant a degree of increased pricing flexibility, then observe what happens.  
19          If competitive conditions continue to intensify, and the smaller firms are not simply following the  
20          dominant firm's lead, a further relaxation of the pricing restrictions may eventually be warranted.

21                 Another useful tool is the HHI, which I also mentioned earlier in my testimony.  
22          Economists use this statistic because it reflects the well-established fact that where industry

1 sales are highly concentrated in a small number of firms, the largest firms tend to have market  
2 power, and market results tend to deviate greatly from the purely competitive benchmark. If the  
3 HHI for a service is high, it is a strong indication that competition has not developed  
4 significantly, and thus it would not be prudent to place the service in the Total Pricing Flexibility  
5 Services basket.

6 Another useful set of data concerns the number of competitors, the degree to which  
7 carriers are relying on their own facilities in providing service, and the number of carriers that  
8 have installed collocation facilities in each wire center. These statistics provide an independent  
9 indication of the degree to which a service is competitive. While valuable, the Commission  
10 should only consider these numbers in conjunction with the HHI or the four-firm concentration  
11 ratio. If one only judged by the number of announced competitors, or the number of  
12 competitors with collocation arrangements, a misleading impression could be given concerning  
13 the level of competition. However, if the Commission also evaluates the extent to which these  
14 firms have actually entered the market and are succeeding in persuading customers to use their  
15 services, then a reasonably accurate picture of each market will emerge.

16  
17 **Q. Can you offer the Commission some guidelines for the appropriate application of these**  
18 **tools?**

19 **A.** Yes. As a starting point, the Commission should look closely at the incumbent's market share,  
20 the four-firm concentration ratio, and the HHI applicable to each market or submarket.

21 If the incumbent carrier controls roughly two-thirds of the market and the remaining  
22 third is largely accounted for by a small number of firms, the market is unlikely to be subject to

1           effective competition. Such a market will probably have a four-firm concentration ratio in  
2           excess of 90%, and an HHI in excess of 4,000. Regardless of how many smaller firms may be  
3           present in the market, the result of granting Total Pricing Flexibility in that situation is likely to be  
4           similar to the result of deregulating a monopolist. The dominant firm's stockholders will benefit  
5           from the increased freedom to charge monopoly prices, but the public interest is unlikely to be  
6           advanced. Of course, the Commission should also take into account other relevant evidence,  
7           including information concerning the extent of barriers to entry and exit, and the extent to which  
8           customers fluidly move between suppliers or tend to stay with a single supplier.

9           At the other end of the continuum, if the incumbent carrier controls just a third of the  
10          market, and the remaining two-thirds is spread over a reasonably large number of competing  
11          firms, including several facilities-based carriers, the market is much more likely to be subject to  
12          effective competition. In such a market, the four-firm concentration ratio will probably be less  
13          than 75%, and the HHI will probably be less than 1,800. Hence, there is little likelihood that  
14          granting Total Pricing Flexibility will adversely affect the public interest. Needless to say, a  
15          variety of other evidence should also be considered before reaching a final conclusion, including  
16          information concerning barriers to entry and exit. In most cases, however, if the market has  
17          reached this stage in the transition towards effective competition, there is relatively little risk that  
18          the incumbent carrier will be able to impose unwarranted price increases on the market, or take  
19          advantage of increased pricing freedom by extracting monopoly profits from the market.

1     **Q.     Can you provide the Commission with a few examples of how these guidelines can be**  
2           **used to assign services to baskets?**

3     A.     Yes. To illustrate the approach RUCO is recommending, I analyzed data for several markets.  
4           The first example I considered was residential basic local exchange (1FR) service. I computed  
5           residential HHI values for each Qwest wire center. Since residential competition has generally  
6           been slower to develop than business competition, I expected to find relatively high HHIs in  
7           most wire centers (indicative of a low degree of competitive penetration). For the most part,  
8           that is what I found. However, two wire centers – Phoenix-Main and Tucson-Main exhibited  
9           significantly lower HHIs – below the 4,000 benchmark mentioned earlier. Consequently, it  
10          would be reasonable for the Commission to put 1FR service provided in the Phoenix-Main and  
11          Tucson-Main wire centers into the High Pricing Flexibility basket, while keeping 1FR service in  
12          all other wire centers in the Moderate Pricing Flexibility basket.

13                 The second example I considered was business basic local exchange service. There  
14                 are most likely differences in the intensity of competition for various business services, including  
15                 1FB, PBX trunks, and Centrex. In general, I would anticipate greater competitive penetration  
16                 for PBX trunk service than for 1FB service, and greater competition for Centrex than for PBX  
17                 trunk service. However, due to data limitations I was not able to compute separate HHIs for  
18                 each of these services.

19                 On an overall basis, I found one wire center (Phoenix-Main) where the HHI for  
20                 business local exchange service fell below the 1,800 threshold, and three others where the HHI  
21                 fell within the range of 1,800 to 4,000 (Phoenix-Pecos, Tucson-Southwest, and Phoenix-  
22                 Foothills). This data suggests that, with the exception of these four wire centers, it would be

1 reasonable for the Commission to keep 1FB service in the Moderate Pricing Flexibility basket.

2 However, it appears that competition in these four wire centers has advanced sufficiently to  
3 justify providing Qwest with additional 1FB pricing flexibility in these particular wire centers.

4 For instance, it would be reasonable to place 1FB service in the Phoenix-Pecos, Tucson-  
5 Southwest, and Phoenix-Foothills wire centers in the High Pricing Flexibility basket. As well, it  
6 would not be unreasonable to place this service in the Phoenix-Main wire center in the Total  
7 Pricing Flexibility basket, considering the highly advanced state of business competition in the  
8 geographic area served by this wire center.

9  
10 **Q. Are there other factors the Commission could also consider before reaching a final**  
11 **decision concerning the competitive status of each service?**

12 A. Yes. For instance, a more granular approach may be feasible if additional data can be obtained  
13 concerning the competitive status of specific business services. For instance, depending upon  
14 the available evidence, it may be feasible to move enterprise-class PBX trunk service into the  
15 High Pricing Flexibility basket (or the Total Pricing Flexibility basket) within additional wire  
16 centers.

17 Similarly, the Commission can also consider the presence of other services which are  
18 close substitutes for the service in question. This is important when these other firms' offerings  
19 are not exact substitutes, but they are reasonably comparable to, and are reasonably close  
20 substitutes for, the incumbent's services. In that case, the market for these substitutes may have  
21 the effect of reducing the incumbent's market power. If enough customers are willing to  
22 discontinue using the incumbent's services and replace them with one of these substitute



1 services, this will increase the price elasticity of demand for the incumbent's services, and  
2 reduce the incumbent's ability to generate monopoly profits. The combined impact of less-  
3 than-fully effective competition and the availability of reasonably close substitutes may constrain  
4 the incumbent's market power sufficiently to justify a further relaxing of regulatory price  
5 controls.

6 The concept of product substitution pertains directly to one of the key criteria  
7 underlying effective competition-the reasonable uniformity of competing products. Two  
8 products may not be identical, or nearly uniform, yet consumers may nevertheless perceive  
9 them to have very similar attributes. If consumers consider two services or products to be  
10 close substitutes, and they are priced at comparable levels, the availability of these non-uniform  
11 alternatives may enhance the prospects for effective competition.

12  
13 **Q. Have Mr. Shooshan and Mr. Teitzel presented examples of alleged substitutes that**  
14 **are available in Qwest's serving area?**

15 **A.** Yes. Mr. Shooshan and Mr. Teitzel contend that wireless service, internet telephony (VoIP)  
16 and cable telephony are all significant competitive alternatives to Qwest's wireline service. As I  
17 explained in the previous section, wireless service is primarily a complement to wireline service,  
18 rather than a competitive alternative. While I am not suggesting this service should be  
19 completely ignored, I recommend giving little weight to this particular substitute, since its  
20 technical characteristics are so different, and since wireless prices tend to be higher than  
21 wireline prices.

22 While I will readily concede that wireless service has grown enormously, and that some

1 customers may react to an increase in Qwest's wireline prices by abandoning their traditional  
2 phone, for most customers this is not a viable option, because wireless service is functionally  
3 different, and it is primarily used for different purposes. As a result, the vast majority of  
4 consumers who purchase wireless service also continue to purchase wireline service. I have  
5 identified the following nine key attributes of wireline services that distinguish them from wireless  
6 services:

- 7
- 8 1. There are ergonomic differences between conventional and mobile phones.
- 9 2. Wireline services typically provide higher quality, more reliable communication than  
10 wireless services.
- 11 3. Wireline services provide the ability to have multiple (extension) phones share the same  
12 line and the same phone number.
- 13 4. Wireline services allow multiple family members or employees to share the same line.
- 14 5. Wireline services allow consumers to reliably and conveniently access the internet, and  
15 transmit large volumes of data at minimal cost.
- 16 6. Wireline services allow consumers to conveniently and reliably transmit and receive  
17 faxes.
- 18 7. Wireline services currently provide better access to emergency services, particularly  
19 E911 services.
- 20 8. Wireline service subscribers automatically have their phone number listed in the  
21 telephone directory for free.
- 22 9. There are safety concerns (real or perceived) associated with wireless services that do

1                   not apply to wireline services.

2  
3           I am well aware that a growing number of consumers are replacing their land line with a  
4           wireless phone, but in the typical market just 6.0% of all consumers have made this switch.  
5           [FCC, Telephone Subscribership in the United States (Data through March 2004), August  
6           2004, footnote 2] On balance, it is reasonable to be cognizant of the availability of wireless  
7           services, but these services should not be classified with wireline services in evaluating market  
8           conditions (e.g. calculating HHIs). Wireless services do not constrain Qwest's ability to exploit  
9           its monopoly power in traditional wireline markets.

10  
11   **Q.    What about cable telephony and VoIP?**

12   A.    Both VoIP and cable telephony are potentially much more direct substitutes for traditional  
13           telephony. Both of these technologies are in their infancy, and thus for many customers these  
14           offerings may still be seen as too risky to be considered viable alternatives to Qwest's  
15           traditional wireline services. As these technologies mature, however, they will need to be given  
16           increasing emphasis during an evaluation of the extent to which Qwest's services are subject to  
17           effective competition. In fact, in developing the HHI statistics discussed earlier, I included an  
18           estimate of lines served by Cox Cable, regardless of whether these lines were provided using  
19           cable telephony or a more traditional technology.

1     **Q.     Earlier, you mentioned the possibility that the trend towards competition may slow, or**  
2           **even reverse. Should the Commission have the flexibility to address this possibility, if**  
3           **it were to occur?**

4     **A.     Yes. RUCO recommends modifying the current Plan to specify that services can be moved**  
5           **from one basket to another as competitive conditions intensify or weaken. The current Plan**  
6           **does not contain any provisions that explicitly deal with reclassifying services from one category**  
7           **to another. Although RUCO is not recommending adoption of Qwest's competitive zone**  
8           **approach, one of the positive aspects of this proposal is that it anticipates the possibility that**  
9           **services might be classified differently in different parts of the state, depending on actual market**  
10          **conditions. To effectuate this concept appropriately, RUCO and other parties should be**  
11          **allowed to oppose such a reclassification request if it is not warranted by the facts, or to**  
12          **recommend that a service be assigned to a different basket than the Company has proposed.**  
13          **Furthermore, RUCO, the Commission Staff, and other interested parties should be allowed to**  
14          **initiate requests for reclassification of services in response to changing market conditions. If the**  
15          **competitive trend were to reverse, and Qwest were to regain its quasi-monopoly status with**  
16          **respect to particular services or geographic areas, it would be unlikely to request**  
17          **reclassification to a basket that provides a lower degree of pricing flexibility. Hence, RUCO**  
18          **should be allowed to petition the Commission for modifying the service classifications to be**  
19          **consistent with changing competitive conditions.**

1     **B.     *Rate Element Caps and Rebalancing***

2  
3     **Q.     In addition to a different basket configuration, are there other aspects of the**  
4     **Company's current Plan you would like to discuss?**

5     A.     Yes. RUCO has developed recommendations for changes to a number of different aspects of  
6     the current Plan. The most substantial of these changes relates to the structure of the price caps  
7     that constrain Qwest's ability to increase rates. Under the current Plan, Qwest has been  
8     restricted by hard caps that preclude rate increases for some services, and by other attributes of  
9     the current Plan which have the effect of constraining its ability to exploit its remaining monopoly  
10    power. Qwest has proposed to greatly modify or eliminate these restrictions, enabling it to  
11    more fully exploit its remaining market power. These changes are not consistent with the public  
12    interest, and thus the proposed Plan should be rejected. RUCO does agree, however, that a  
13    further loosening of the current pricing constraints would be reasonable at this time, provided  
14    the modifications are appropriately linked to actual market conditions. The Company should be  
15    provided with some additional flexibility to respond to competitive pressures in markets where  
16    competition has become relatively intense, without prematurely removing regulatory protections  
17    from monopoly power in markets where competition remains relatively weak.

18  
19    **Q.     What types of caps are in the Company's current Plan?**

20    A.     There are two basic types of caps in the Company's current Plan – basket-wide price caps,  
21    and caps on individual rate elements. The details vary, depending on the specific basket.

1     **Q.     Would you please discuss the caps that apply to the most restrictive basket?**

2     A.     Yes. Under the current Plan, the Company has the least amount of flexibility concerning prices  
3           in the Basic/Essential Non-competitive Services basket. Under the proposed Plan, the least  
4           flexibility is given to the Limited Pricing Flexibility Services basket. In the current Plan, prices of  
5           some services cannot increase (they are subject to a hard cap) and the overall level of prices in  
6           the Basic Services basket cannot increase year-over-year by more than the annual change in  
7           the GDP-PI minus 4.2%. Thus, if GDP-PI increases by 4.5%, under the current Plan, the  
8           overall level of rates in the Basic Services basket cannot increase by more than .3%. Under the  
9           proposed plan, the hard cap is eliminated, and Qwest will be given unlimited freedom to  
10          increase individual prices year-over-year, subject only to "a basket-level revenue cap." This  
11          "revenue cap" is not well defined, but it is clearly less binding than the existing constraints. To  
12          the extent Qwest's revenues from certain services are declining due to the loss of market share  
13          or otherwise, Qwest might be free to recoup its lost revenues through price increases imposed  
14          on other services or other geographic areas, where its market position is stronger.

15                 Under the proposed Plan, there are no limitations placed on rate increases for rate  
16                 elements, or entire services. It appears that the Company would only need to make sure that  
17                 the increase in revenues that results from Basket 1 price increases is offset by reductions in  
18                 other revenues in Basket 1. While the proposed language is rather vague, this may include both  
19                 revenue reductions due to reductions in rates for other services, as well as revenue reductions  
20                 due to market share erosion. Furthermore, it appears that the Company can even request rate  
21                 increases that do not meet this "revenue neutrality" test, provided it receives Commission  
22                 approval. In contrast, under the current Plan many rates have been subject to a hard cap, and

1 rate increases must be offset by rate decreases of a similar or greater magnitude (depending  
2 upon the rate of inflation relative to the 4.2% offset). Moreover, individual rate elements cannot  
3 be raised year-over-year by more than 25%. The latter provision also has the effect of limiting  
4 rate increases for any specific service to no more than 25% (assuming every rate element within  
5 that service is increased to the maximum permissible extent).  
6

7 **Q. Before you outline RUCO's recommendations for price constraints applicable to the**  
8 **Moderate Pricing Flexibility Services basket, would you please clarify the subtle**  
9 **distinction between service-level caps and rate element caps?**

10 A. Yes. Earlier, in my testimony, I outlined the ways in which the "rate element" caps in the current  
11 Plan differ from the "service" caps in the proposed Plan. While the Qwest witnesses do not  
12 explain this change, it would give the Company greater freedom to increase rates toward  
13 "whatever the market will bear." The Company will be able to increase rates for those service  
14 elements where it enjoys the highest degree of monopoly power, while reducing or holding  
15 constant rates for those service elements which are subject to intense competitive pressures.  
16 This is a significant increase in pricing freedom—an increase that has not been adequately  
17 justified.  
18

19 **Q. What restrictions does RUCO propose for its recommended Moderate Pricing**  
20 **Flexibility Services basket?**

21 A. I propose including both a basket-wide revenue cap and a rate element cap in the Moderate  
22 Pricing Flexibility Services basket. The basket-wide cap is essentially identical to the cap

1 applied to the Basic Services basket in the current Plan – the change in GDP-PI minus the  
2 same 4.2% offset that is currently in effect. This cap provides Qwest the same pricing freedom  
3 it is afforded under the current Plan, and provides more protection for customers than the  
4 ambiguous “basket-level revenue cap” in Qwest’s proposed Plan. For the reasons I discussed  
5 earlier, I also feel that it is important to impose a 25% rate element cap for the services that will  
6 be included in the Moderate Pricing Flexibility Services basket.

7  
8 **Q. Why do you believe it is appropriate to retain the productivity offset component of the**  
9 **basket-wide revenue cap?**

10 A. An offset continues to be appropriate, since it ensures that industry-wide increases in ILEC  
11 productivity and decreases in ILEC costs will be passed through to customers, as they would  
12 be under effective competition, as well as under traditional regulation. An offset also ensures  
13 that ratepayers share in some of the benefits of technological improvements, increased  
14 economies of scale and other forces which have contributed to the long-term decline in  
15 telecommunications costs.

16 Mr. Shooshan contends that productivity offsets, in a number of jurisdictions, “are no  
17 longer used. There is a growing recognition that competition can now serve as a constraint on  
18 both prices and earnings, and as a means for distributing the gains from increased productivity.”  
19 [Shooshan Direct, pp. 8-9] This line of reasoning would be more persuasive if elimination of the  
20 offset were limited to situations where Qwest is able to prove that market forces alone are  
21 strong enough to ensure continuation of the long term historic pattern of decreasing costs and  
22 prices. If competitive forces are, in fact, strong enough to force carriers to pass productivity



1 gains through to consumers, thereby ensuring that prices decline as fast as costs, then the offset  
2 simply serves as a backup safety measure—one that protects consumers in the event competitive  
3 forces weaken. As well, the offset is helpful since it provides some protection for consumers if  
4 the market environment is not as Mr. Shooshan describes. In other words, the offset will only  
5 have an impact if productivity gains would not be passed along to consumers, absent such a  
6 requirement.

7 Mr. Shooshan offers an additional argument in favor of eliminating the offset. He claims  
8 that

9  
10 given the inroads being made by competitors, Qwest faces the real risk  
11 in many geographic areas of excess capacity and/or stranded  
12 plant—both of which reduce productivity. The revenue cap proposed  
13 by Qwest here requires Qwest to increase productivity more rapidly  
14 than the economy as a whole by the rate of inflation in order to maintain  
15 a level of profitability. In today's environment, that plan poses a  
16 sufficiently difficult challenge to Qwest. [Id., p. 10]  
17

18 Without digressing into a lengthy discussion of the most appropriate way to calculate an  
19 appropriate offset or "X" factor, I would simply point out that recent fluctuations in "X" have  
20 not been unexpected, nor is there any reason to believe a 4% or 5% offset is too large. To the  
21 contrary, in all but one of the overlapping five year periods commencing with 1986, the level of  
22 "X" that was achieved by the industry was equal to or greater than 4.2% as shown in Table 11  
23 below.  
24  
25

**Table 11**  
**"X" Factor Moving Average: 1986 - 2003**

Time Period	5-year Moving Average
1986-1990	5.00%
1987-1991	5.57%
1988-1992	5.30%
1989-1993	5.80%
1990-1994	5.24%
1991-1995	5.09%
1992-1996	5.04%
1993-1997	5.33%
1994-1998	5.25%
1995-1999	7.00%
1996-2000	7.46%
1997-2001	6.62%
1998-2002	4.29%
1999-2003	3.40%

It is well understood that productivity and input cost changes can (and do) fluctuate from year to year, sometimes drastically, and that it is difficult to accurately forecast the change that will occur in any given year. However, the fact that "X" fluctuates, or that it is hard to forecast, does not provide a logical basis for assuming a zero "X" factor, or for adopting changes to price cap regulation which would only make logical sense if one were confident that "X" will average out to zero in the future. To better appreciate the flaw in this logic, consider a

1           simple analogy. It is unclear what interest rates will be in the future, but that does not provide a  
2           logical basis for assuming interest rates will drop to zero, or for asking someone to loan you  
3           money without charging any interest.

4           While telephone industry productivity and input cost reductions fluctuate from year to  
5           year, they do not generally fluctuate in a range above and below zero, nor is there any evidence  
6           that "X" will average out to zero in the future. To the contrary, the achieved level of the "X"  
7           factor is normally well above zero, regardless of how one measures it, and on a multi-year basis  
8           it has consistently averaged far above zero, as demonstrated in Table 11 above.

9           Although there have been wide year-to-year fluctuations in "X" throughout the historic  
10          record, there is no reason to believe it will now disappear, or decline to zero. During the period  
11          from about 1996 through 2001 the industry experienced an unusually rapid decline in costs.  
12          This brief burst in productivity translated into higher than typical levels of "X" for a few years.  
13          Following this brief, sharp decline in costs, which was not fully passed through to consumers,  
14          the industry has been experiencing a few years in which costs are not declining as rapidly as the  
15          long term trend. In the subsequent few years, costs have declined more slowly than normal,  
16          and therefore "X" has been lower than the long term average, but there is every reason to  
17          anticipate it will eventually return to its long-term average.

18  
19       **Q.    Would you please discuss the price caps applicable to baskets that offer somewhat**  
20       **greater pricing flexibility?**

21       **A.    Yes. Under the current and proposed Plans, the Company has either more limited pricing**  
22       **flexibility in the Basic/Essential Non-competitive basket, or near complete pricing freedom in**

1 the Flexibly-priced Retail Competitive basket. There is not a basket in either Plan that affords  
2 the Company an "in between" measure of pricing flexibility. The Wholesale Services basket,  
3 while "in between" in that it is Basket 2, does not afford the Company a significant amount of  
4 pricing flexibility, because most services in that basket are "governed by their own specific  
5 pricing rules and will continue to be governed by such rules." [Proposed Plan, 3.b.] In  
6 RUCO's recommended approach, however, the High Pricing Flexibility Services basket  
7 provides an "in between" degree of flexibility.

8 This basket would contain services for which the Company is experiencing a substantial  
9 amount of competition, but the competition is currently not intensive enough, or not robust  
10 enough, to justify total reliance on competitive forces, and a total absence of regulatory  
11 protection. Consistent with this concept, we recommend providing the Company with  
12 complete freedom to reduce prices in the High Pricing Flexibility Services basket, and a very  
13 substantial amount of freedom to increase prices of these services. However, there would be  
14 reasonable limits on the upward pricing freedom, to provide at least a limited amount of  
15 protection from potential abuse of any remaining monopoly power the Company may still enjoy  
16 in these markets.

17 More specifically, we recommend using a basket-wide revenue cap of two times the  
18 yearly change in the GDP-PI, as well as a rate element cap of 25% per year. Thus, Qwest is  
19 precluded from rapidly increasing the overall level of rates for these services, but it is free to  
20 engage in extensive rate rebalancing within this category.

21 Under RUCO's recommended Plan, services in the High Pricing Flexibility basket  
22 would be subject to more rapid rebalancing, since it would be allowed to increase overall rate

1 levels within this basket by as much as twice the inflation rate, and increases of up to 25% per  
2 year are allowed, provided they are offset by decreases in other rates within this basket. If, as  
3 RUCO recommends, services are only placed in this basket if they are subject to a substantial  
4 level of competition, the Company would be unlikely to fully exercise this upward pricing  
5 freedom.

6  
7 **Q. Would you please discuss the rules applying to the Total Pricing Flexibility Services**  
8 **basket?**

9 A. Yes. In the current and proposed Plans the Flexibly-priced Retail Competitive Services basket  
10 affords the Company the maximum amount of pricing freedom. The most comparable basket in  
11 RUCO's recommended Plan is the Total Pricing Flexibility basket.

12 In the current Plan, there is a basket-wide cap on rates or revenues for the services in  
13 the Flexibly-priced Competitive basket equal to the "weighted average price level of all the  
14 services in the Basket as calculated by the formula set forth in subpart (c)." [Current Plan, 4.b.]  
15 In the Company's proposed Plan, however, there is no basket-wide cap on rates or revenues  
16 in the Flexibly-priced Retail Competitive Services basket. As well, there are no limitations on  
17 the magnitude of rate increases which can be imposed on individual services, once they are  
18 placed in the Flexibly-priced Retail Competitive basket. In effect, the Company will be free to  
19 charge whatever the market will bear. This type of pricing flexibility only makes sense if these  
20 services are, in fact, subject to effective competition, as Qwest alleges.

1     **Q.     Do you propose any basket-wide or rate element caps for the Total Pricing Flexibility**  
2     **basket?**

3     A.     Yes. I propose that rates for services in the Total Pricing Flexibility basket be capped  
4     according to the maximum rate provisions of existing Commission rules A.A.C. R14-2-1109  
5     and A.A.C. R14-2-1110. In this regard, RUCO's recommendation is similar to Qwest's  
6     proposal. The premise underlying this recommendation is that it will only include services where  
7     multiple providers are successfully competing with Qwest, and the Company does not enjoy  
8     any significant residual monopoly power in the specified markets. Assuming that competition is  
9     sufficiently strong, any attempt by Qwest to impose unjustified rate increases will fail—the net  
10    effect will be a further erosion of the Company's market share, and a reduction in its profits,  
11    rather than an increase in those profits. And, customers will easily be able to avoid paying the  
12    increase rates, by simply switching to a competitor's service. Consistent with this reasoning,  
13    there is no logical reason to excessively limit the Company's pricing freedom, assuming market  
14    forces are (in fact) strong enough to serve as an adequate substitute for regulation (just as  
15    regulation has traditionally been used as a substitute for competition in monopoly markets).

16           Needless to say, given the lack of any significant constraint on prices, it is imperative for  
17    the Commission to closely examine the evidence concerning the actual (not just assumed)  
18    competitive status of the services that are placed in this basket.

19  
20    **Q.     Has Qwest proposed a specific program of rate rebalancing as part of its proposed**  
21    **Plan?**

22    A.     No. The Company has simply indicated that it intends to make "revenue neutral filings for

1 services within Basket 1." There are no provisions in the proposed Plan which set forth specific  
2 reductions in access revenues, or increases in other rates.

3  
4 **Q. Has Qwest closed the door on access rate decreases, local rate increases, or other**  
5 **forms of rate rebalancing?**

6 **A.** No. Mr. Ziegler states:

7  
8 For the reasons discussed in Mr. McIntyre's testimony, Qwest  
9 is not proposing any further changes to switched access charges at this  
10 time. The FCC is presently investigating the entire topic of intercarrier  
11 compensation. Several parties are submitting proposals for  
12 comprehensive plans for the complete revamping of intercarrier  
13 compensation. Since this all-encompassing restructure of intercarrier  
14 compensation is imminent, it seems appropriate to wait for that  
15 restructure to address access charges.

16 To the extent that the Commission chooses to order additional  
17 reductions in intrastate access charges at this time, such changes must  
18 be revenue neutral. As Qwest proposed in its prefiled testimony filed in  
19 the Access Docket and in Mr. McIntyre's testimony in this case, if  
20 Qwest's intrastate access charges are reduced in this docket, the  
21 Commission should implement a subscriber line charge or other  
22 end-user charge in an amount sufficient to offset the access reduction.  
23 Mr. McIntyre explains the amount of subscriber line charge that would  
24 be required to offset a reduction in Qwest's intrastate access rates to  
25 the current interstate levels. For each \$5 Million reduction in Intrastate  
26 access, Qwest would need to receive 20¢ per line in a subscriber line  
27 charge. [Ziegler Direct, pp. 14-15]  
28

29 **Q. Qwest and other parties have sometimes advocated increasing local rates in order to**  
30 **reduce switched access rates. Do you agree this type of rebalancing is imperative?**

31 **A.** No. There is no pressing need to greatly reduce switched access rates, or to dramatically

1           increase local exchange rates. The claim that basic local residential rates are below cost, and  
2           that switched access rates are above cost, is hardly a new argument, nor is a crisis looming if  
3           access rates are not reduced. This dispute has a long and controversial history. I have  
4           personally been involved in hundreds of regulatory proceedings in which this issue has been  
5           vigorously debated, stretching back more than 25 years, and the argument predates that time  
6           period. Given the controversial nature of these claims, it is not surprising that Congress  
7           included some provisions in the 1996 Telecommunications Act that directly relate to this issue.  
8           The Act adds an entirely new section to federal law dealing with Universal Service – Section  
9           254. Within this context, a portion of § 254(k) reads:

10                               [T]he States, with respect to intrastate services, shall establish any  
11                               necessary cost allocation rules, accounting safeguards, and guidelines to  
12                               ensure that services included in the definition of universal service bear  
13                               no more than a reasonable share of the joint and common costs of  
14                               facilities used to provide those services. [47 U.S.C. § 254(k) (1996).]  
15  
16

17           Congress clearly realized the existence of a continuing controversy over whether or not  
18           basic local exchange service is provided “below cost” and recognized that the heart of this  
19           controversy is the appropriate treatment of joint and common costs. In most cases, claims that  
20           basic service is priced below cost (as well as the corresponding claim that switched access is  
21           priced above cost) rest upon cost analyses which allocate little or no joint costs to switched  
22           access service, and which allocate a disproportionate share (or all) of the joint costs to basic  
23           service. The remaining parts of § 254(k) make it clear that the purpose behind these rules,  
24           safeguards, and guidelines is to prevent any excess cost burden being placed on basic local



1 service (as well as any other services that are included within the "universal service" category).

2 In my experience, virtually every time someone in a regulatory proceeding claims that  
3 basic exchange rates are below cost (or that intrastate switched access rates are above cost)  
4 these claims are based upon assumptions or cost studies that place more than a reasonable  
5 share of the joint and common costs onto basic service. Most typically, they place 100% of the  
6 joint loop costs onto basic service; most often, correcting this one error alone is sufficient to  
7 demolish the claim that basic service is subsidized, or priced below cost.

8 In any event, I am somewhat puzzled why Qwest would be anxious to rapidly increase  
9 its local exchange rates while making offsetting reductions in its access rates. Qwest claims that  
10 its local exchange services are undergoing increased competitive pressures, yet it is asking for  
11 greater freedom to increase the prices it charges for these services. Needless to say,  
12 competitive pressure--when it actually exists--is almost always in the downward direction. I have  
13 trouble visualizing a situation where a firm would be forced to *increase* its prices in order to  
14 respond to increasing competitive pressures. In competitive markets firms typically increase  
15 their prices in response to cost increases, while they *decrease* rates in response to competitive  
16 pressures.

17 To the extent that Qwest wants greater freedom to raise its basic local exchange prices,  
18 this strongly suggests that it continues to enjoy a substantial degree of market power, and that it  
19 sees an opportunity to increase rates that are currently below the monopoly profit-maximizing  
20 level. By removing the rate element constraints, reducing and reorganizing baskets, and making  
21 other changes to its current Plan, Qwest is seeking the opportunity to more fully exploit its  
22 market power, and to generate profits that come closer to the levels it could potentially achieve

1 as a completely unregulated monopolist.

2 While I question the logic or merits of proposals to greatly reduce switched access  
3 rates and increase basic exchange rates, under RUCO's recommended Plan the Company will  
4 be allowed to gradually rebalance these rates if it so chooses. RUCO's recommended Plan  
5 does not include any constraint on annual reductions in switched access rates, so regardless of  
6 where these rates are placed within the recommended Plan, Qwest can reduce these rates as  
7 rapidly as it chooses. The extent to which it can offset these reductions with increases in other  
8 rates will depend the degree of competition facing switched access services, and thus which  
9 basket it is placed into. For instance, nothing in the recommended Plan would prevent the  
10 Company from reducing its intrastate switched access rates to levels comparable to those  
11 charged in the federal jurisdiction, if for some reason it felt this was desirable (although this  
12 would result in reduced profits, if the reduction were to be implemented very rapidly, and there  
13 aren't sufficient opportunities to recoup the lost revenues with increases in other rates within the  
14 same basket).

15  
16 **C. Rate Design**

17  
18 **Q. What are the Company's rate design proposals?**

19 **A.** In addition to the USF proposals described in section two of my testimony, Qwest proposes  
20 the following rate revisions:  
21  
22

1. Elimination of residential and business zone increment charges
2. Elimination or limitation of "older" packages
3. Elimination of the free call allowance for directory assistance (DA) service
4. Increase in the rates for some private line services
5. Changes in the rates for 800 Database Access Service (800 DB)
6. Deregulation of third party Billing and Collection (B&C)

**Q. Can you be more specific about the magnitude of these rate changes, as reflected in the Company's revised filing?**

**A.** Yes. Qwest only quantifies the impact of items four and five in the above list. The Company's private line proposals will result in a revenue increase of "just under \$748,000 annually." [McIntyre Direct, p. 4] The 800 DB changes will result in a revenue increase of "almost \$46,000." [Id., p. 16]

**Q. How does Qwest support its rate design proposals?**

**A.** Mr. Teitzel states that the elimination of zone increment charges "will streamline Qwest's local exchange pricing structure." [Teitzel Direct, p. 84] Mr. Ziegler believes this change "will simplify billing and minimize customer confusion." [Ziegler Direct, p. 12] Recall that Qwest has proposed to replace these zone increment charges with draws from the AUSF. I addressed the Company's support for this proposal earlier in my testimony.

Mr. Teitzel also speaks to items two and three in the above list. He believes that eliminating a number of "older" packages "will result in a narrowed package set that is better

1 focused on the range of features customers desire and will position Qwest's packages more  
2 favorably in the competitive market." [Teitzel Direct, p. 100] Mr. Teitzel proposes eliminating  
3 the free call allowance for directory assistance service "to alleviate customer confusion resulting  
4 from multiple Directory Assistance products and to streamline Qwest's Directory Assistance  
5 product line." [Id., p. 94]

6 Mr. McIntyre provides the Company's reasoning for changing private line and 800 DB  
7 rates, as well as the regulatory framework for third part B&C. Regarding private line services,  
8 he states

9  
10 The demand for these services is declining, relative to other private line  
11 services, and they are outdated. Many new services have been  
12 introduced that provide the same or better functionality. These services  
13 are also costly for Qwest to maintain. In some cases they utilize  
14 outdated technology or equipment. The proposed price changes will  
15 gain consistency in the rates across all rate elements. [McIntyre Direct,  
16 p. 8]  
17

18 He goes on to explain why he believes the private line market is highly competitive [Id., pp. 11-  
19 12]

20 Mr. McIntyre favors revising 800 DB rates in an effort to "mirror Qwest rates effective  
21 in the federal jurisdiction." [Id., p. 16] And he favors deregulation of the Company's B&C  
22 service because the market for that service is "robustly competitive." [Id., p. 17]  
23

24 **Q. Does RUCO object to the Company's rate design proposals?**

25 **A.** For the most part, no, particularly if these rate changes are implemented by Qwest while

1 working within the price constraints recommended by RUCO. In some cases this may require  
2 Qwest to phase-in its rate proposals (e.g. to ensure that rates do not increase by more than  
3 25% per year), but that is not an unreasonable restriction, since it provides customers with  
4 additional time to modify their service configuration, or find a competitive alternative.

5 With regard to the zone increment charges, the existing charges are not sufficient to fully  
6 compensate for the higher cost of serving low density, rural areas. That is not to say that I  
7 agree with Mr. Teitzel when he states

8  
9 Since residential line local exchange rates in UNE Cost Zone 2 and 3  
10 wire centers are below cost, these rates are currently receiving an  
11 implicit subsidy, which is not sustainable in a competitive marketplace.  
12 Supporting residential rates in these wire centers with AUSF funds will  
13 make this subsidy explicit, will protect customers in these areas from  
14 dramatic rate increases and ensure continued affordable service in high  
15 cost areas, and is competitively neutral. [Teitzel Direct, p. 89]  
16

17 In section two, I demonstrated that Zone 2 and 3 local exchange rates are not receiving an  
18 "implicit subsidy" from any other service. This line of argument, then, is not a proper  
19 justification for the Company's Arizona USF proposals, or the corresponding proposals regard  
20 zone increments. By the same token, however, profit margins are not as high in rural areas, and  
21 in some low density areas the total level of revenues is less than the total cost of providing  
22 service to customers in that area. Needless to say, it would not be consistent with the public  
23 interest to dramatically increase rates in these low density areas, in an effort to recoup the  
24 relatively high cost of serving these areas.

25 Instead, it would be more appropriate to modify the Arizona USF to allow both the

1 Company and CLECs to draw from this fund, to the extent they serve customers in these  
2 extraordinarily high cost outlying areas. More specifically, RUCO recommends adopting a  
3 USF approach similar to the one used in Kansas, as I briefly described in an earlier portion of  
4 my testimony.

5 As for some of Qwest's other rate design proposals, I do not have a problem with the  
6 Company's attempt to obsolete, or increase rates for some of its "older" service packages,  
7 provided customers are given adequate notice of these changes. I do not believe that customers  
8 of those packages will be excessively burdened if they must subscribe "to another Qwest  
9 package that meets their individual needs or ... purchase the specific features desired on an ala  
10 carte basis." [Id., p. 100]

11 Similarly, RUCO does not object to Qwest's proposals for revamping its rates for  
12 private line services and 800 DB service, provided these changes are accommodated within the  
13 framework of RUCO's recommended price cap system. Of course, if it is true that "Qwest's  
14 share of the Private Line market in Arizona has experienced steady erosion" [McIntyre Direct,  
15 p. 13] I would question the wisdom of greatly increasing these rates. To the extent this is a  
16 "highly competitive" market, as Qwest alleges, it should be looking for ways to slash its costs  
17 and reduce its rates, rather than increasing them. Nevertheless, it is not unreasonable to allow  
18 Qwest the freedom to experiment with various price changes, while working within the various  
19 pricing constraints recommended by RUCO.  
20

21 **Q. Can you explain Qwest's directory assistance proposal?**

22 **A.** Yes. Mr. Teitzel argues that removal of the free call allowance for "traditional Directory

1 Assistance" will (1) alleviate customer confusion, (2) improve DA administrative efficiency, and  
2 (3) enhance the competitive positioning of Qwest's DA product line. [Teitzel Direct, p. 94]

3 Mr. Teitzel tells us that DA customers are charged the same rate for intraLATA and  
4 interLATA DA (\$1.15 per call). The only difference in the pricing structure for the two  
5 services is that intraLATA DA customers are allowed one free DA call per month. He goes  
6 on to argue that "customers typically do not understand distinction between LATAs and the  
7 relationship between LATA boundaries and rate structures."

8 Mr. Teitzel also contends that Qwest's DA customers have an increasing array of  
9 alternatives, including use of their wireless service and the Internet to obtain directory listings.  
10 Of course, the higher rate will also apply to customers who don't have wireless and internet  
11 alternatives. Still, this type of rate change is permissible within the price cap structure  
12 recommended by RUCO in this proceeding. In other words, it is not unreasonable to provide  
13 management with the discretion of eliminating the free call allowance, provided the revenues  
14 generated by this rate change are properly accounted for within the framework of the overall  
15 revenue requirement and price constraints that are adopted in this proceeding.

16  
17 **Q. Has Qwest proposed any specific changes to its intrastate switched access rates?**

18 **A.** Not at this time. Mr. Ziegler states

19  
20 Qwest is not proposing any further changes to switched access charges  
21 at this time. The FCC is presently investigating the entire topic of  
22 intercarrier compensation. Several parties are submitting proposals for  
23 comprehensive plans for the complete revamping of intercarrier  
24 compensation. Since this all-encompassing restructure of intercarrier

1 compensation is imminent, it seems appropriate to wait for that  
2 restructure to address access charges. [Ziegler Direct, p. 14]  
3

4 Qwest has offered a couple contingency plans regarding access, however. First, it states that:

5  
6 If the Commission reverses the access charge reduction ordered in  
7 Decision No. 66772, Qwest would propose intrastate access charges  
8 be reduced by \$5 million in this case. Assuming that the proposals  
9 Qwest has made for revisions to the Plan are adopted, Qwest would  
10 not request any specific rate increase to offset this rate reduction. [Id.]  
11

12 Second, it discusses a more drastic possibility:

13  
14 **Q. WHAT IF THE ARIZONA COMMISSION WISHES**  
15 **TO PROCEED WITH SWITCHED ACCESS REFORM**  
16 **EVEN THOUGH THE FCC MAY MOVE AHEAD**  
17 **WITH A COMPREHENSIVE RESTRUCTURE?**

18 **A.** In that case, Qwest will ask the Commission to provide a plan  
19 on how to recover the revenue currently provided by Switched  
20 Access. If, for example, intrastate Switched Access rates are  
21 reduced to interstate levels and the revenue recovery is shifted  
22 to residential rate payers, the impact will be a rate increase of  
23 about \$1.00 per month per residential access line. [McIntyre  
24 Direct, p. 15]  
25

26 To the extent the Company wants to restructure intrastate access rates to be more  
27 closely aligned with the corresponding interstate rates, it can take steps in that direction, while  
28 working within the confines of the pricing freedom offered by RUCO's recommended price cap  
29 plan. The general trend in telecommunications costs and rates is downward, and it is not  
30 unreasonable for the interexchange carriers and their customers to share in the benefits of this



1 downward trend (e.g. by reducing switched access rates without necessarily increasing other  
2 rates by the same dollar amount).

3 If the Commission wants to go farther, and it wants to greatly reduce or eliminate  
4 intrastate switched access rates, I recommend this be accomplished as part of a comprehensive  
5 expansion of the Arizona Universal Service Fund, similar to the manner in which intrastate  
6 access rates were reduced or eliminated in Kansas. In that state, the state's Universal Service  
7 Fund has largely replaced intrastate switched access charges, and this change was  
8 accomplished in a manner that encourages more effective competition in rural areas.

9  
10 **Q. Does this conclude your direct testimony which was prefiled on November 18, 2004?**

11 **A. Yes, it does.**

Appendix A

**Qualifications**

***Present Occupation***

**Q. What is your present occupation?**

A. I am a consulting economist and President of Ben Johnson Associates, Inc.®, a firm of economic and analytic consultants specializing in the area of public utility regulation.

***Educational Background***

**Q. What is your educational background?**

A. I graduated with honors from the University of South Florida with a Bachelor of Arts degree in Economics in March 1974. I earned a Master of Science degree in Economics at Florida State University in September 1977. The title of my Master's Thesis is a "A Critique of Economic Theory as Applied to the Regulated Firm." Finally, I graduated from Florida State University in April 1982 with the Ph.D. degree in Economics. The title of my doctoral dissertation is "Executive Compensation, Size, Profit, and Cost in the Electric Utility Industry."

***Clients***

**Q. What types of clients employ your firm?**

A. Much of our work is performed on behalf of public agencies at every level of government involved in utility regulation. These agencies include state regulatory commissions, public counsels, attorneys general, and local governments, among

1 others. We are also employed by various private organizations and firms, both  
2 regulated and unregulated. The diversity of our clientele is illustrated below.

3

4 Regulatory Commissions

5

6 Alabama Public Service Commission—Public Staff for Utility Consumer Protection

7 Alaska Public Utilities Commission

8 Arizona Corporation Commission

9 Arkansas Public Service Commission

10 Connecticut Department of Public Utility Control

11 District of Columbia Public Service Commission

12 Idaho Public Utilities Commission

13 Idaho State Tax Commission

14 Iowa Department of Revenue and Finance

15 Kansas State Corporation Commission

16 Maine Public Utilities Commission

17 Minnesota Department of Public Service

18 Missouri Public Service Commission

19 National Association of State Utility Consumer Advocates

20 Nevada Public Service Commission

21 New Hampshire Public Utilities Commission

22 North Carolina Utilities Commission—Public Staff

23 Oklahoma Corporation Commission

24 Ontario Ministry of Culture and Communications

25 Staff of the Delaware Public Service Commission

26 Staff of the Georgia Public Service Commission

27 Texas Public Utilities Commission

28 Virginia State Corporation Commission

29 Washington Utilities and Transportation Commission

30 West Virginia Public Service Commission—Division of Consumer Advocate

31 Wisconsin Public Service Commission

32 Wyoming Public Service Commission

1

2     Public Counsels

3

4             Arizona Residential Utility Consumers Office

5             Colorado Office of Consumer Counsel

6             Colorado Office of Consumer Services

7             Connecticut Consumer Counsel

8             District of Columbia Office of People's Counsel

9             Florida Public Counsel

10            Georgia Consumers' Utility Counsel

11            Hawaii Division of Consumer Advocacy

12            Illinois Small Business Utility Advocate Office

13            Indiana Office of the Utility Consumer Counselor

14            Iowa Consumer Advocate

15            Maryland Office of People's Counsel

16            Minnesota Office of Consumer Services

17            Missouri Public Counsel

18            New Hampshire Consumer Counsel

19            Ohio Consumer Counsel

20            Pennsylvania Office of Consumer Advocate

21            Utah Department of Business Regulation—Committee of Consumer Services

22

23     Attorneys General

24

25            Arkansas Attorney General

26            Florida Attorney General—Antitrust Division

27            Idaho Attorney General

28            Kentucky Attorney General

29            Michigan Attorney General

30            Minnesota Attorney General

31            Nevada Attorney General's Office of Advocate for Customers of Public Utilities

32            South Carolina Attorney General

- 1 Utah Attorney General
- 2 Virginia Attorney General
- 3 Washington Attorney General

4

5 Local Governments

6

- 7 City of Austin, TX
- 8 City of Corpus Christi, TX
- 9 City of Dallas, TX
- 10 City of El Paso, TX
- 11 City of Galveston, TX
- 12 City of Norfolk, VA
- 13 City of Phoenix, AZ
- 14 City of Richmond, VA
- 15 City of San Antonio, TX
- 16 City of Tucson, AZ
- 17 County of Augusta, VA
- 18 County of Henrico, VA
- 19 County of York, VA
- 20 Town of Ashland, VA
- 21
- 22 Town of Blacksburg, VA
- 23 Town of Pecos City, TX

24

25 Other Government Agencies

26

- 27 Canada—Department of Communications
- 28 Hillsborough County Property Appraiser
- 29 Provincial Governments of Canada
- 30 Sarasota County Property Appraiser
- 31 State of Florida—Department of General Services
- 32 United States Department of Justice—Antitrust Division

1           Utah State Tax Commission

2

3       Regulated Firms

4

5           Alabama Power Company

6           Americall LDC, Inc.

7           BC Rail

8           CommuniGroup

9           Florida Association of Concerned Telephone Companies, Inc.

10          LDDS Communications, Inc.

11          Louisiana/Mississippi Resellers Association

12          Madison County Telephone Company

13          Montana Power Company

14          Mountain View Telephone Company

15          Nevada Power Company

16          Network I, Inc.

17          North Carolina Long Distance Association

18          Northern Lights Public Utility

19          Otter Tail Power Company

20          Pan-Alberta Gas, Ltd.

21          Resort Village Utility, Inc.

22          South Carolina Long Distance Association

23          Stanton Telephone

24          Teleconnect Company

25          Tennessee Resellers' Association

26          Westel Telecommunications

27          Yelcot Telephone Company, Inc.

28

1 Other Private Organizations

2

3 Arizona Center for Law in the Public Interest

4 Black United Fund of New Jersey

5 Casco Bank and Trust

6 Coalition of Boise Water Customers

7 Colorado Energy Advocacy Office

8 East Maine Medical Center

9 Georgia Legal Services Program

10 Harris Corporation

11 Helca Mining Company

12 Idaho Small Timber Companies

13 Independent Energy Producers of Idaho

14 Interstate Securities Corporation

15 J.R. Simplot Company

16 Merrill Trust Company

17 MICRON Semiconductor, Inc.

18 Native American Rights Fund

19 PenBay Memorial Hospital

20 Rosebud Enterprises, Inc.

21 Skokomish Indian Tribe

22 State Farm Insurance Company

23 Twin Falls Canal Company

24 World Center for Birds of Prey

25

26 *Prior Experience*

27

28 **Q. Before becoming a consultant, what was your employment experience?**

29 A. From August 1975 to September 1977, I held the position of Senior Utility

30 Analyst with Office of Public Counsel in Florida. From September 1974 until

31 August 1975, I held the position of Economic Analyst with the same office. Prior

1 to that time, I was employed by the law firm of Holland and Knight as a corporate  
2 legal assistant.

3

4 **Q. In how many formal utility regulatory proceedings have you been involved?**

5 A. As a result of my experience with the Florida Public Counsel and my work as a  
6 consulting economist, I have been actively involved in approximately 400  
7 different formal regulatory proceedings concerning electric, telephone, natural  
8 gas, railroad, and water and sewer utilities.

9

10 **Q. Have you done any independent research and analysis in the field of**  
11 **regulatory economics?**

12 A. Yes, I have undertaken extensive research and analysis of various aspects of utility  
13 regulation. Many of the resulting reports were prepared for the internal use of the  
14 Florida Public Counsel. Others were prepared for use by the staff of the Florida  
15 Legislature and for submission to the Arizona Corporation Commission, the  
16 Florida Public Service Commission, the Canadian Department of  
17 Communications, and the Provincial Governments of Canada, among others. In  
18 addition, as I already mentioned, my Master's thesis concerned the theory of the  
19 regulated firm.

20

21 **Q. Have you testified previously as an expert witness in the area of public utility**  
22 **regulation?**

23 A. Yes. I have provided expert testimony on more than 250 occasions in proceedings  
24 before state courts, federal courts, and regulatory commissions throughout the  
25 United States and in Canada. I have presented or have pending expert testimony  
26 before 35 state commissions, the Interstate Commerce Commission, the Federal  
27 Communications Commission, the District of Columbia Public Service



1 Commission, the Alberta, Canada Public Utilities Board, and the Ontario Ministry  
2 of Culture and Communication.

3

4 **Q. What types of companies have you analyzed?**

5 A. My work has involved more than 425 different telephone companies, covering the  
6 entire spectrum from AT&T Communications to Stanton Telephone, and more  
7 than 55 different electric utilities ranging in size from Texas Utilities Company to  
8 Savannah Electric and Power Company. I have also analyzed more than 30 other  
9 regulated firms, including water, sewer, natural gas, and railroad companies.

10

11 *Teaching and Publications*

12

13 **Q. Have you ever lectured on the subject of regulatory economics?**

14 A. Yes, I have lectured to undergraduate classes in economics at Florida State  
15 University on various subjects related to public utility regulation and economic  
16 theory. I have also addressed conferences and seminars sponsored by such  
17 institutions as the National Association of Regulatory Utility Commissioners  
18 (NARUC), the Marquette University College of Business Administration, the  
19 Utah Division of Public Utilities and the University of Utah, the Competitive  
20 Telecommunications Association (COMPTEL), the International Association of  
21 Assessing Officers (IAAO), the Michigan State University Institute of Public  
22 Utilities, the National Association of State Utility Consumer Advocates  
23 (NASUCA), the Rural Electrification Administration (REA), North Carolina State  
24 University, and the National Society of Rate of Return Analysts.

25

1     **Q.     Have you published any articles concerning public utility regulation?**

2     A.     Yes, I have authored or co-authored the following articles and comments:

3

4             "Attrition: A Problem for Public Utilities—Comment." *Public Utilities*  
5             *Fortnightly*, March 2, 1978, pp. 32-33.

6

7             "The Attrition Problem: Underlying Causes and Regulatory Solutions." *Public*  
8             *Utilities Fortnightly*, March 2, 1978, pp. 17-20.

9

10            "The Dilemma in Mixing Competition with Regulation." *Public Utilities*  
11            *Fortnightly*, February 15, 1979, pp. 15-19.

12

13            "Cost Allocations: Limits, Problems, and Alternatives." *Public Utilities*  
14            *Fortnightly*, December 4, 1980, pp. 33-36.

15

16            "AT&T is Wrong." *The New York Times*, February 13, 1982, p. 19.

17

18            "Deregulation and Divestiture in a Changing Telecommunications Industry," with  
19            Sharon D. Thomas. *Public Utilities Fortnightly*, October 14, 1982, pp. 17-22.

20

21            "Is the Debt-Equity Spread Always Positive?" *Public Utilities Fortnightly*,  
22            November 25, 1982, pp. 7-8.

23

24            "Working Capital: An Evaluation of Alternative Approaches." *Electric*  
25            *Rate-Making*, December 1982/January 1983, pp. 36-39.

26

27            "The Staggers Rail Act of 1980: Deregulation Gone Awry," with Sharon D.  
28            Thomas. *West Virginia Law Review*, Coal Issue 1983, pp. 725-738.

1           “Bypassing the FCC: An Alternative Approach to Access Charges.” *Public*  
2           *Utilities Fortnightly*, March 7, 1985, pp. 18-23.

3  
4           “On the Results of the Telephone Network's Demise—Comment,” with Sharon D.  
5           Thomas. *Public Utilities Fortnightly*, May 1, 1986, pp. 6-7.

6  
7           “Universal Local Access Service Tariffs: An Alternative Approach to Access  
8           Charges.” In *Public Utility Regulation in an Environment of Change*, edited by  
9           Patrick C. Mann and Harry M. Trebing, pp. 63-75. Proceedings of the Institute of  
10          Public Utilities Seventeenth Annual Conference. East Lansing, Michigan:  
11          Michigan State University Public Utilities Institute, 1987.

12  
13          With E. Ray Canterbury. Review of *The Economics of Telecommunications:*  
14          *Theory and Policy* by John T. Wenders. *Southern Economic Journal* 54.2  
15          (October 1987).

16  
17          “The Marginal Costs of Subscriber Loops,” A Paper Published in the Proceedings  
18          of the Symposia on Marginal Cost Techniques for Telephone Services. The  
19          National Regulatory Research Institute, July 15-19, 1990 and August 12-16, 1990.

20  
21          With E. Ray Canterbury and Don Reading. “Cost Savings from Nuclear  
22          Regulatory Reform: An Econometric Model.” *Southern Economic Journal*,  
23          January 1996.

1    ***Professional Memberships***

2

3    **Q.    Do you belong to any professional societies?**

4    **A.    Yes. I am a member of the American Economic Association.**

5

1 PROPRIETARY EXHIBIT 1

2 for the

3 TESTIMONY

4 OF BEN JOHNSON, PH.D.

5 On Behalf of

6 THE STATE OF ARIZONA

7 RESIDENTIAL UTILITY CONSUMER OFFICE

8 Before the

9 ARIZONA CORPORATION COMMISSION

10  
11 Docket No. T-01051B-03-0454

12 Docket No. T-00000D-00-0672

13  
14 Note 1: Multiple proprietary notes on the same line are noted by a, b, c, etc.

15 Note 2: Proprietary tables in their entirety will follow this list.

16  
17 Page Line(s) Proprietary Information

**Table 1**  
**Pure TSLRIC Approach**  
**\*\*Proprietary\*\***

Customer Category	Local Direct Revenues	Local Direct Costs	Contribution	Contribution Percent
Residential				
Zone 1				
Zone 2				
Zone 3				
Statewide				
Business				
Zone 1				
Zone 2				
Zone 3				
Statewide				

**Table 3**  
**Matrix of Revenue-cost Comparisons for**  
**UNE Zone 1 Residential Mid-Toll Users**  
**\*\*Proprietary\*\***

Feature Revenues	Total Revenue	Total Costs	Contribution (Subsidy)
Example 1: \$ 0.00			
Example 2: \$ 2.50			
Example 3: \$ 5.00			
Example 4: \$ 9.25			
Example 5: \$12.05			

**Table 7**  
**CLEC Market Share as of December 31, 2003**  
**per Qwest data**  
**\*\*\*Proprietary\*\*\***

	Total	Business	Residential
CLEC market share in Qwest's Area			

**Table 10**  
**Competitive Activity in**  
**Qwest's Service Area**  
**\*\*\*Proprietary\*\*\***

	CLEC Total Market Share	UNE- L/EEL	UNE-P	Resale	Facilities- Based
Entire Qwest Area					
Qwest Competitive Zones					

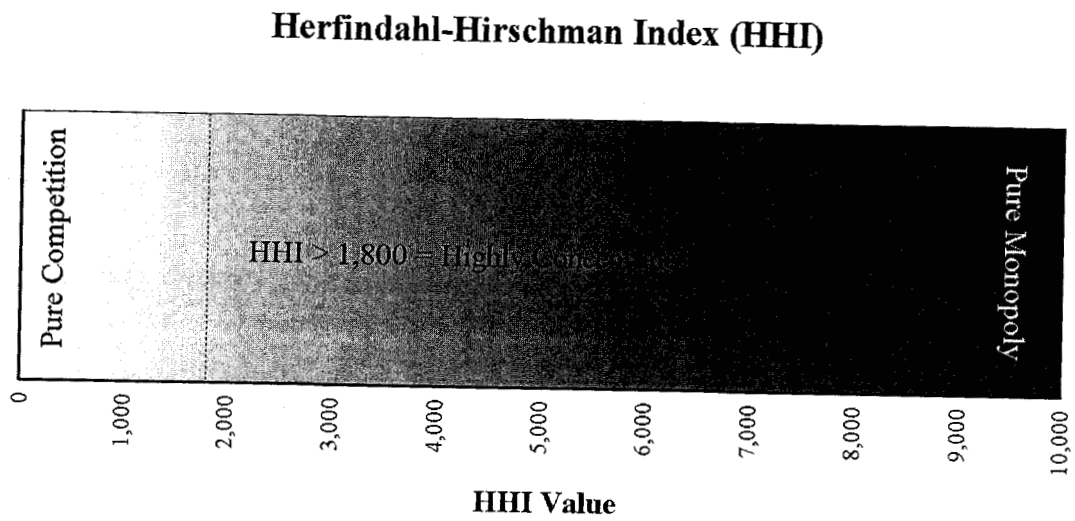
Direct Testimony of Ben Johnson, Ph.D.

On Behalf of the RUCO, Docket No's. T-01051B-03-0454 and T-00000D-00-0672

## **EXHIBIT 2**



Graph 3



Graph 4

**Pure TSLRIC Subsidy Analysis***Qwest - 2003 Revenues*

---

Description	Revenues	----- Costs -----		
	Local	Local Direct	Common @ 10.4%	Contribution (Subsidy)

---

**Residential Service**

Zone 1  
Zone 2  
Zone 3  
Statewide Average

**Business Service**

Zone 1  
Zone 2  
Zone 3  
Statewide Average

---

**Subsidy Analysis with Allocations***Qwest - 2003 Revenues*

---

Description	Revenues	-----Costs-----			Contribution (Subsidy)
	Local	Local Direct	Joint @ 50.0%	Common @ 0.104	

---

**Residential Service**

Zone 1  
Zone 2  
Zone 3  
Statewide Average

**Business Service**

Zone 1  
Zone 2  
Zone 3  
Statewide Average

---

**Subsidy Analysis with Multiple Services***Low Toll Users*


---

Description	-----Revenues-----		-----Costs-----				Contribution (Subsidy)
	Local	Other	Local Direct	Other Direct	Joint @ 100.0%	Common @ 10.4%	

---

**Residential Service**

## Zone 1

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Zone 2

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Zone 3

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Statewide Average

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

**Subsidy Analysis with Multiple Services***Mid Toll Users*


---

Description	-----Revenues-----		-----Costs-----				Contribution (Subsidy)
	Local	Other	Local Direct	Other Direct	Joint @ 100.0%	Common @ 10.4%	

---

**Residential Service**

## Zone 1

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Zone 2

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Zone 3

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Statewide Average

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

**Subsidy Analysis with Multiple Services***High Toll Users*


---

Description	-----Revenues-----		-----Costs-----				Contribution (Subsidy)
	Local	Other	Local Direct	Other Direct	Joint @ 100.0%	Common @ 10.4%	

---

**Residential Service**

## Zone 1

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Zone 2

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Zone 3

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

## Statewide Average

## Feature Revenues

\$0.00

\$2.50

\$5.00

\$9.25

\$12.05

**Residential Local Exchange Service Competition in Qwest Wire Centers***Sorted by Qwest Market Share*

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
PHNXAZMA	PHOENIX-MAIN			
TCSNAZMA	TUCSON-MAIN			
PHNXAZBW	PHOENIX-BETHANY WEST			
PHNXAZSE	PHOENIX-SOUTHEAST			
PHNXAZ81	PHOENIX-FOOTHILLS			
AGFIAZSR	SUNRISE			
TCSNAZFW	FLOWING-WELLS			
TCSNAZSE	TUCSON SE			
CSGRAZMA	CASA GRANDE			
PHNXAZPP	PHOENIX-PECOS			
GDYRAZCW	COLDWATER			
PHNXAZNO	PHOENIX-NORTH			
SCDLAZSH	SHEA			
TEMPAZMC	TEMPE-MCCLINTOCK			
PHNXAZMY	PHOENIX-MARYVALE			
MESAAZGI	GILBERT			
PHNXAZMR	PHOENIX-MID RIVERS			
PHNXAZPR	PHOENIX-PEORIA			
CHNDAZWE	CHANDLER-WEST			
PHNXAZEA	PHOENIX-EAST			
YUMAAZMA	YUMA-MAIN			
TCSNAZCR	CRAYCROFT			
YUMAAZSE	YUMA-SOUTHEAST			
TCSNAZRN	RINCON			
SPRSAZWE	SUPERSTITION-WEST			
CHNDAZMA	CHANDLER-MAIN			
LTPKAZMA	LITCHFIELD PARK			
BRDSAZMA	BEARDSLEY			
PHNXAZNW	PHOENIX-NORTHWEST			
GLDLAZMA	GLENDALE-MAIN			
CHNDAZSO	CHANDLER-SOUTH			
TCSNAZNO	TUCSON-NORTH			
SCDLAZMA	SCOTTSDALE			
PHNXAZWE	PHOENIX-WEST			
PHNXAZCA	PHOENIX-CACTUS			
TEMPAZMA	TEMPE-MAIN			
SPRSAZMA	SUPERSTITION-MAIN			
MESAAZMA	MESA-MAIN			
PHNXAZGR	PHOENIX-GREENWAY			
TCSNAZCO	CORTARO			
TCSNAZSO	TUCSON-SOUTH			

**Residential Local Exchange Service Competition in Qwest Wire Centers***Sorted by Qwest Market Share*

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
TCSNAZCA	CATALINA			
TCSNAZEA	TUCSON-EAST			
DRVYAZNO	DEER VALLEY NORTH			
PHNXAZSO	PHOENIX-SOUTH			
PAGEAZMA	PAGE			
PRSCAZMA	PRESCOTT MAIN			
CRNDAZMA	CORONADO			
FLGSAZEA	FLAGSTAFF EAST			
PRVYAZPP	PINNACLE PEAK			
SCDLAZTH	THUNDERBIRD			
PHNXAZNE	PHOENIX-NORTHEAST			
TLSNAZMA	TOLLESON			
TCSNAZTV	TANQUE VERDE			
PHNXAZSY	PHOENIX-SUNNYSLOPE			
GLOBAZMA	GLOBE			
FLGSAZMA	FLAGSTAFF MAIN			
YUMAAZFT	YUMA FORTUNA			
GNVYAZMA	GREEN VALLEY			
SPRSAZEA	SUPERSTITION-EAST			
FTMDAZMA	FORT MCDOWELL			
CVCKAZMA	CAVE CREEK			
CTWDAZSO	COTTONWOOD-SOUTH			
SRVSAZMA	SIERRA VISTA-MN			
HGLYAZMA	HIGLEY			
PYSNAZMA	PAYSON			
PRSCAZEA	PRESCOTT EAST			
NGLSAZMA	NOGALES			
SEDNAZMA	SEDONA-MAIN			
HGLYAZQC	HGLY QUEEN CREEK			
SEDNAZSO	SEDONA-SOUTH			
NGLSAZMW	NOGALES MIDWAY			
TCSNAZWE	TUCSON WEST			
CHVYAZMA	CHINO VALLEY			
VAILAZSO	VAIL SOUTH			
NWRVAZMA	NEW RIVER			
PHNXAZLV	PHOENIX-LAVEEN			
TCSNAZSW	TUCSON SOUTHWEST			
CTWDAZMA	COTTONWOOD-MAIN			
MRCPAZMA	MARICOPA			
HMBLAZMA	HUMBOLDT			
CRCYAZMA	CIRCLE CITY			



**Residential Local Exchange Service Competition in Qwest Wire Centers***Sorted by Qwest Market Share*

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
STFDAZMA	STANFIELD			
WNSLAZMA	WINSLOW			
WNBGAZ01	WINTERSBURG			
SNMNAZMA	SAN MANUEL			
ELOYAZ01	ELOY			
CLDGAZMA	COOLIDGE			
MARNAZMA	MARANA			
MSPKAZMA	MUNDS PARK			
SRVSAZNO	SIERRA VISTA NO			
SPRRAZMA	SUPERIOR			
WLCXAZMA	WILLCOX			
TUBCAZMA	TUBAC			
BCKYAZMA	BUCKEYE			
BNSNAZMA	BENSON			
WHTKAZMA	WHITE TANKS			
MIAMAZMA	MIAMI			
DDVLAZNM	DUDLEYVILLE			
JSCYAZMA	JOSEPH CITY			
FLRNAZMA	FLORENCE			
TMBSAZMA	TOMBSTONE			
YRNLAZMA	YARNELL			
PIMAAZMA	PIMA			
BLCNAZMA	BLACK CANYON			
DGLSAZMA	DOUGLAS			
PLMNAZMA	PALOMINAS			
CMVRAZMA	CAMP VERDE			
VAILAZNO	VAIL NORTH			
SMTNAZMA	SOMERTON			
ORCLAZMA	ORACLE			
WLTNAZMA	WELLTON			
SFFRAZMA	SAFFORD			
BNSNAZSD	SAINT DAVID			
TNCKAZMA	TONTO CREEK			
FLGSAZSO	FLAGSTAFF SOUTH			
SRVSAZSO	SIERRA VISTA SO			
FTMDAZNO	RIO VERDE			
BISBAZMA	BISBEE			
MMTHAZMA	MAMMOTH			
WLMSAZMA	WILLIAMS			
PINEAZMA	PINE			
GLBNAZMA	GILA BEND			

**Residential Local Exchange Service Competition in Qwest Wire Centers***Sorted by Qwest Market Share*

---

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
<hr/>				
KRNYAZMA	KEARNY			
ASFKAZMA	ASHFORK			
WCBGAZMA	WICKENBURG			
GRCNAZMA	GRAND CANYON			
HYDNAZMA	HAYDEN			
PTGNAZEL	PATOGONIA ELGIN			
PTGNAZMA	PATAGONIA			
TCSNAZML	MOUNT LEMMON			
WHTLAZMA	WHITLOW			

---

**Business Local Exchange Service Competition in Qwest Wire Centers***Sorted by HHI*

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
PHNXAZMA	PHOENIX-MAIN			
PHNXAZPP	PHOENIX-PECOS			
TCSNAZSW	TUCSON SOUTHWEST			
PHNXAZ81	PHOENIX-FOOTHILLS			
HGLYAZMA	HIGLEY			
TCSNAZMA	TUCSON-MAIN			
TCSNAZTV	TANQUE VERDE			
SEDNAZMA	SEDONA-MAIN			
SPRSAZMA	SUPERSTITION-MAIN			
CSGRAZMA	CASA GRANDE			
HGLYAZQC	HGLY QUEEN CREEK			
SRVSAZSO	SIERRA VISTA SO			
PHNXAZCA	PHOENIX-CACTUS			
VAILAZSO	VAIL SOUTH			
MSPKAZMA	MUNDS PARK			
HMBLAZMA	HUMBOLDT			
CVCKAZMA	CAVE CREEK			
FTMDAZMA	FORT MCDOWELL			
YUMAAZFT	YUMA FORTUNA			
PHNXAZMY	PHOENIX-MARYVALE			
NWRVAZMA	NEW RIVER			
GLDLAZMA	GLENDALE-MAIN			
PHNXAZPR	PHOENIX-PEORIA			
PHNXAZGR	PHOENIX-GREENWAY			
SPRSAZEA	SUPERSTITION-EAST			
FLGSAZEA	FLAGSTAFF EAST			
SCDLAZSH	SHEA			
CTWDAZMA	COTTONWOOD-MAIN			
PHNXAZNW	PHOENIX-NORTHWEST			
PRVYAZPP	PINNACLE PEAK			
SPRSAZWE	SUPERSTITION-WEST			
PHNXAZSO	PHOENIX-SOUTH			
PHNXAZLV	PHOENIX-LAVEEN			
CHNDAZMA	CHANDLER-MAIN			
MESAAZGI	GILBERT			
CHVYAZMA	CHINO VALLEY			
TCSNAZCO	CORTARO			
GDYRAZCW	COLDWATER			
TEMPAZMC	TEMPE-MCCLINTOCK			
MESAAZMA	MESA-MAIN			
CHNDAZSO	CHANDLER-SOUTH			

**Business Local Exchange Service Competition in Qwest Wire Centers***Sorted by HHI*

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
LTPKAZMA	LITCHFIELD PARK			
TCSNAZCA	CATALINA			
BRDSAZMA	BEARDSLEY			
PRSCAZMA	PRESCOTT MAIN			
CRNDAZMA	CORONADO			
NGLSAZMW	NOGALES MIDWAY			
TCSNAZNO	TUCSON-NORTH			
SRVSAZMA	SIERRA VISTA-MN			
AGFIAZSR	SUNRISE			
PHNXAZMR	PHOENIX-MID RIVERS			
PHNXAZSY	PHOENIX-SUNNYSLOPE			
PHNXAZNO	PHOENIX-NORTH			
TCSNAZSE	TUCSON SE			
PHNXAZNE	PHOENIX-NORTHEAST			
YUMAAZSE	YUMA-SOUTHEAST			
PHNXAZWE	PHOENIX-WEST			
SCDLAZMA	SCOTTSDALE			
SCDLAZTH	THUNDERBIRD			
TEMPAZMA	TEMPE-MAIN			
TCSNAZFW	FLOWING-WELLS			
GNVYAZMA	GREEN VALLEY			
CHNDAZWE	CHANDLER-WEST			
FLGSAZMA	FLAGSTAFF MAIN			
PYSNAZMA	PAYSON			
TCSNAZRN	RINCON			
PHNXAZBW	PHOENIX-BETHANY WEST			
BCKYAZMA	BUCKEYE			
YUMAAZMA	YUMA-MAIN			
TCSNAZEA	TUCSON-EAST			
DRVYAZNO	DEER VALLEY NORTH			
TMBSAZMA	TOMBSTONE			
PHNXAZSE	PHOENIX-SOUTHEAST			
PHNXAZEA	PHOENIX-EAST			
TCSNAZSO	TUCSON-SOUTH			
TCSNAZCR	CRAYCROFT			
TLSNAZMA	TOLLESON			
SRVSAZNO	SIERRA VISTA NO			
BLCNAZMA	BLACK CANYON			
GLOBAZMA	GLOBE			
SEDNAZSO	SEDONA-SOUTH			
PTGNAZEL	PATOGONIA ELGIN			

**Business Local Exchange Service Competition in Qwest Wire Centers***Sorted by HHI*

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
MIAMAZMA	MIAMI			
CRCYAZMA	CIRCLE CITY			
ELOYAZ01	ELOY			
PLMNAZMA	PALOMINAS			
PAGEAZMA	PAGE			
PRSCAZEA	PRESCOTT EAST			
WLMSAZMA	WILLIAMS			
PINEAZMA	PINE			
NGLSAZMA	NOGALES			
GLBNAZMA	GILA BEND			
CTWDAZSO	COTTONWOOD-SOUTH			
TNCKAZMA	TONTO CREEK			
WNSLAZMA	WINSLOW			
MMTHAZMA	MAMMOTH			
MRCPAZMA	MARICOPA			
CLDGAZMA	COOLIDGE			
BNSNAZSD	SAINT DAVID			
BNSNAZMA	BENSON			
WCBGAZMA	WICKENBURG			
SFFRAZMA	SAFFORD			
SMTNAZMA	SOMERTON			
TUBCAZMA	TUBAC			
CMVRAZMA	CAMP VERDE			
WNBGAZ01	WINTERSBURG			
VAILAZNO	VAIL NORTH			
BISBAZMA	BISBEE			
DGLSAZMA	DOUGLAS			
STFDAZMA	STANFIELD			
PIMAAZMA	PIMA			
GRCNAZMA	GRAND CANYON			
ASFKAZMA	ASHFORK			
WLTNAZMA	WELLTON			
WLCXAZMA	WILLCOX			
TCSNAZWE	TUCSON WEST			
FTMDAZNO	RIO VERDE			
HYDNAZMA	HAYDEN			
WHTKAZMA	WHITE TANKS			
SPRRAZMA	SUPERIOR			
YRNLAZMA	YARNELL			
PTGNAZMA	PATAGONIA			
ORCLAZMA	ORACLE			

**Business Local Exchange Service Competition in Qwest Wire Centers***Sorted by HHI*

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CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
MARNAZMA	MARANA			
FLGSAZSO	FLAGSTAFF SOUTH			
JSCYAZMA	JOSEPH CITY			
FLRNAZMA	FLORENCE			
TCSNAZML	MOUNT LEMMON			
KRNYAZMA	KEARNY			
SNMNAZMA	SAN MANUEL			
WHTLAZMA	WHITLOW			
DDVLAZNM	DUDLEYVILLE			

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IN THE MATTER OF QWEST CORPORATION'S  
FILING OF RENEWED PRICE REGULATION PLAN.

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF THE  
COST OF TELECOMMUNICATIONS ACCESS.

DOCKET NO. T-00000D-00-0672

DIRECT TESTIMONY  
OF  
MARYLEE DIAZ CORTEZ  
(Redacted)

On Behalf of  
The  
RESIDENTIAL UTILITY CONSUMER OFFICE

November 18, 2004

1	INTRODUCTION.....	1
2	REVENUE REQUIREMENTS .....	2
3	RATE BASE .....	3
4	Rate Base Adjustment #1 – Accumulated Depreciation .....	3
5	Rate Base Adjustment #2 – Capitalization of Software.....	5
6	Rate Base Adjustment #3 – Construction Work in Progress.....	7
7	Rate Base Adjustment #4 – Accumulated Depreciation - Station Apparatus....	9
8	Rate Base Adjustment #5 – Pension Asset .....	10
9	Rate Base Adjustment #6 – Materials and Supplies.....	13
10	Rate Base Adjustment #7 - Postretirement Benefits.....	14
11	Rate Base Adjustment #8 – Cash Working Capital.....	15
12	OPERATING INCOME.....	17
13	Operating Adjustment #1 – Out-of-Period Adjustments.....	17
14	Operating Adjustment #2 – Projected Changes in Test Year Revenues .....	18
15	Operating Adjustment #3 – Correction to Deregulated Service Accounts.....	19
16	Operating Adjustment #4 – Capitalization of Software.....	21
17	Operating Adjustment #5 - Postretirement Benefit Amortization.....	22
18	Operating Adjustment #6 - Depreciation Expense .....	22
19	Operating Adjustment #7 – AFUDC Off-set Adjustment .....	23
20	Operating Adjustment #8 - Property Taxes.....	24
21	Operating Adjustment #9 - Incentive Compensation.....	25
22	Operating Adjustment #10 - Income Tax Expense .....	26
23		
24		



**INTRODUCTION**

Q. Please state your name, occupation, and business address.

A. My name is Marylee Diaz Cortez. I am a Certified Public Accountant. I am the Chief of Accounting and Rates for the Residential Utility Consumer Office (RUCO) located at 1110 W. Washington, Phoenix, Arizona 85007.

Q. Please state your educational background and qualifications in the utility regulation field.

A. Appendix I, which is attached to this testimony, describes my educational background and includes a list of the rate case and regulatory matters in which I have participated.

Q. Please state the purpose of your testimony.

A. The purpose of my testimony is to present RUCO's revenue requirement recommendation for Qwest Corporation (Qwest) based on my own analyses as well as the analyses of other RUCO witnesses.

Q. Please describe your work effort on this project.

A. I obtained and reviewed data and performed analytical procedures necessary to understand the Company's application as it relates to operating income, rate base, and the Company's overall revenue requirements. I worked closely with RUCO consultants in formulating RUCO's position regarding a revised price cap plan, and was responsible,

1 along with RUCO witness William Rigsby, for reflecting the impact of those  
2 positions on Qwest's revenue requirements.

3  
4 **REVENUE REQUIREMENTS**

5 Q. What revenue requirement results from your audit and review of Qwest's  
6 financial position?

7 A. My analysis of Qwest's test year financial position indicates that an  
8 increase in rates of \$160 million, or 13.7% is warranted. This compares  
9 with the Company's revenue increase calculation of \$322 million, or  
10 28.7%.

11  
12 Q. Is the Company requesting that its current rates and tariffs be increased  
13 by the \$322 million it calculated in its rate of return analysis?

14 A. No. Qwest explains its ratemaking proposal as follows:

15 Although Qwest's Rule 103 Filing shows a revenue  
16 requirement deficiency of \$322 million, Qwest does not  
17 propose rate increases to recover this revenue requirement.  
18 Qwest does not believe that traditional revenue-requirement-  
19 based ratemaking is appropriate or sustainable in the  
20 increasingly competitive telecommunications market in  
21 Arizona. Rather, Qwest has proposed changes to the Price  
22 Cap Plan, rate rebalancing, and the use of AUSF funding for  
23 subscribers in Qwest's less dense service areas in order to  
24 (1) place Qwest in a position where it can compete fairly with  
25 its competitors in Arizona and (2) introduce competition in  
26 the provision of telephone service in less densely populated  
27 portions of the State. [Direct testimony Qwest witness  
28 Ziegler at page 3]  
29  
30  
31

1 Q. Is RUCO recommending that Qwest's current rates and tariffs be  
2 increased by the \$160 million it calculated in its rate of return analysis?

3 A. No, not on a rate by rate basis.  
4

5 Q. What is RUCO's recommendation for recovery of the \$160 million revenue  
6 deficiency?

7 A. RUCO recommends that Qwest be authorized an opportunity to recover  
8 RUCO's recommended revenue requirement through a price cap plan, as  
9 outlined by Dr. Johnson.  
10

11 Q. Does RUCO's recommended modified price cap plan afford Qwest the  
12 opportunity to recover RUCO's recommended revenue requirement?

13 A. Yes. The modified price cap plan as proposed by RUCO witness Dr.  
14 Johnson grants additional pricing flexibility for Qwest in its truly  
15 competitive markets. Through that flexibility Qwest will have additional  
16 pricing freedom to compete in the telecommunication markets and the  
17 opportunity to increase its revenue streams so as to realize its  
18 recommended rate of return.  
19

20 **RATE BASE**

21 **Rate Base Adjustment #1 – Accumulated Depreciation**

22 Q. Is Qwest proposing an adjustment to its historical test year accumulated  
23 depreciation balance?

1 A. Yes. Qwest has proposed an adjustment that reduces its test year  
2 accumulated depreciation balance by \$109.7 million.

3  
4 Q. What is the Company's rationale for restating its historical accumulated  
5 depreciation balance?

6 A. Qwest claims that the method it uses for depreciating its assets<sup>1</sup> requires it  
7 to periodically review the status of its depreciation rates and depreciation  
8 reserve and perform a "technical update". Qwest witness Wu claims that  
9 the results of this review indicate that its depreciation rates for certain  
10 accounts require a technical update. Mr. Wu then proposes a change in  
11 depreciation rates for these particular accounts.

12  
13 Q. Why would a request for a change in certain depreciation rates result in a  
14 restatement of the historical accumulated depreciation balance?

15 A. It should not. A request for a change in depreciation rates, if granted,  
16 would only affect the amount of depreciation that is accrued and collected  
17 in rates on a prospective basis. Such a request cannot, as Qwest  
18 proposes, retroactively rewrite the amount of depreciation that was  
19 historically accrued and is embedded in Qwest's rates and tariffs.

20  
21 Q. If Qwest's request for a restatement of its test year historical accumulated  
22 depreciation balance were granted, would it result in double counts?

---

<sup>1</sup> Remaining-Life Technique

1 A. Yes. Pursuant to Decision No. 62507, Qwest was granted accelerated  
2 depreciation rates that increased its annual depreciation accruals by over  
3 \$100 million. This additional depreciation expense was included in  
4 Qwest's rates beginning in April 2000 pursuant to Decision No. 63487.  
5 Thus, ratepayers have been paying for this accelerated depreciation for  
6 the past three years. If Qwest is allowed to restate its test year  
7 accumulated depreciation balance, as if this accelerated depreciation had  
8 never been included in test year rates, ratepayers will effectively pay for  
9 this portion of Qwest's plant investment twice, once in the test year and  
10 again through the rates and tariffs set in this docket.

11  
12 Q. Have you made an adjustment to prevent this double recovery?

13 A. Yes. As shown on Schedule MDC-3, Column (B), I have restored Qwest's  
14 proposed write-off of \$109.7 million to the test year accumulated  
15 depreciation balance. This will prevent ratepayers from having to pay for  
16 this portion of Qwest's investment in plant twice.

17  
18 **Rate Base Adjustment #2 – Capitalization of Software**

19 Q. Has Qwest proposed an adjustment to its rate base to reflect a change in  
20 its method of accounting for computer software?

21 A. Yes. In 1998, the American Institute of Certified Public Accountants  
22 issued Statement of Position 98-1 (SOP 98-1). This statement called for a  
23 change in the method of accounting for computer software from expensing

1 of these costs in the year incurred to capitalization and amortization of the  
2 software costs over its useful life.

3  
4 Q. How has Qwest reflected this change in this case?

5 A. Qwest has made an adjustment to its test year income statement to  
6 remove its test year recorded software expenses of \$18.659 million and  
7 increased its test year rate base by the same amount to reflect  
8 capitalization of these costs. The Company also made conforming  
9 changes to reflect test year amortization of software costs.

10  
11 Q. Do you agree with this adjustment?

12 A. Yes, in part. The accounting profession via SOP 98-1 has determined that  
13 software expenditures are more accurately reflected as assets in a  
14 company's financial statements than as annual expenses. It is therefore  
15 appropriate to reflect this change on Qwest's financial statements.  
16 However, I believe the Company's proposed adjustment fails to capture  
17 the entire effect of this change in accounting.

18  
19 Q. Please explain.

20 A. Qwest's proposed adjustment merely reflects this change in accounting as  
21 it affects the test year. SOP98-1, however, took effect in January 1999,  
22 and accordingly, an adjustment needs to reflect capitalization accounting  
23 for software for this entire time.

1 Q. Does Qwest's now agree that this is appropriate?

2 A. Yes. Through data requests Qwest agreed that its financial statements  
3 should reflect the SOP98-1 change for 1999 through 2003, not just the  
4 test year.

5  
6 Q. What adjustment have you made?

7 A. As shown on Schedule MDC-3, Column (C), I have increased rate base by  
8 a net amount of \$50.782 million to reflect the effect on plant and  
9 accumulated amortization of having implemented SOP98-1 in 1999. This  
10 adjustment also effects test year expenses and will be discussed in the  
11 Operating Income section of my testimony.

12  
13 **Rate Base Adjustment #3 – Construction Work in Progress**

14 Q. Is Qwest seeking to include some its Construction Work in Progress  
15 (CWIP) in rate base?

16 A. Yes. The Company is requesting the inclusion of \$21.448 million in CWIP  
17 in rate base.

18  
19 Q. Under ACC ratemaking policy is CWIP an appropriate element of rate  
20 base?

21 A. No. In Arizona the Commission has historically excluded CWIP from rate  
22 base primarily because Construction Work in Progress by definition is not  
23 used and useful in the provision of utility service and thus does not

1 warrant rate base inclusion. Utilities, however, are allowed to accrue the  
2 interest and capital costs of their Construction Work in Progress projects  
3 in the form of AFUDC. Once projects are completed the CWIP balances  
4 as well as the accrued AFUDC are then eligible for rate base inclusion.  
5

6 Q. Given this policy, why has Qwest included its CWIP balances in rate base  
7 in the instant case?

8 A. According to the Company's testimony it wants to change the  
9 Commission's policy on the CWIP ratemaking methodology to what it calls  
10 the "revenue offset method".  
11

12 Q. What is the "revenue offset method"?

13 A. Qwest's testimony explains this methodology as allowing rate base  
14 inclusion of CWIP balances in rate base, accrual of AFUDC, and a credit  
15 to revenue to offset the AFUDC accruals to prevent double recovery.  
16

17 Q. Why does Qwest want to change the methodology used by the  
18 Commission to account for CWIP?

19 A. Qwest argues first that its proposed revenue offset method is the method  
20 authorized by the FCC. Second, the Company argues that the  
21 methodology used currently used by the Commission does not allow it to  
22 fully recover its construction costs (including carrying costs), whereas the  
23 revenue offset method will allow for full recovery. In support of this



1 argument Qwest provides an exhibit (PEG-D4) that it claims shows that  
2 the current CWIP accounting methodology does not allow full recovery.

3  
4 Q. Do you agree that Exhibit PEG-D4 demonstrates that current CWIP  
5 accounting methodology does not allow full recovery of construction  
6 costs?

7 A. No. PEG-D4 merely demonstrates that there is a timing difference  
8 between when recovery begins under the offset method verses the current  
9 method. The PEG-D4 analysis is misleading because it assumes that  
10 new rates are set annually, and that there is no regulatory lag. Both  
11 assumptions are wrong and as a result the PEG-D4 analysis is flawed.

12  
13 Q. What adjustment is necessary?

14 A. As shown on Schedule MDC-3, Column (D), I have removed \$21.448  
15 million in CWIP balances from rate base. I have also made a conforming  
16 adjustment to operating income to remove the AFUDC offset. These  
17 adjustments are necessary to reflect the methodology the Commission  
18 uses to account and set rates for CWIP.

19  
20 **Rate Base Adjustment #4 – Accumulated Depreciation - Station Apparatus**

21 Q. Did you perform a reconciliation of the test year accumulated depreciation  
22 balance included in the Company's application with the accumulated  
23 depreciation balances reflected on Qwest's general ledger?

1 A. Yes. Pursuant to this audit procedure, I learned that Qwest's books and  
2 records reflect an accumulated depreciation balance in its Station  
3 Apparatus account of \$12.363 million, which the Company has failed to  
4 include in its application.

5  
6 Q. Is the Station Apparatus accumulated depreciation account an ACC  
7 jurisdictional account?

8 A. Yes. According to the Company, the FCC has deregulated this account  
9 but the ACC has not. Further, Qwest has included the Station Apparatus  
10 plant account balance of \$32.899 million in its requested rate base, yet  
11 failed to include the accumulated depreciation associated with this  
12 account.

13  
14 Q. What adjustment is necessary?

15 A. As shown on Schedule MDC-3, Column (E), I have decreased rate base  
16 by \$12.363 million to include the accumulated depreciation balance for the  
17 Station Apparatus account. Since the Company has requested rate base  
18 recovery of the Station Apparatus plant it is appropriate that the  
19 accumulated depreciation on the Station Apparatus plant also be included.

20  
21 **Rate Base Adjustment #5 – Pension Asset**

22 Q. Please discuss the Company's proposed adjustment to increase its rate  
23 base by \$97.377 million to include a "pension asset".

1 A. Qwest claims that as a result of the accounting requirements of FAS 87 it  
2 currently has a pension asset on its books for Qwest Arizona operations of  
3 \$97.377 million. The Company further asserts that the "pension asset" is  
4 a real asset that is supported by investor supplied funds and therefore  
5 should be afforded rate base recovery, as would any other utility asset.

6  
7 Q. Do you agree with this position?

8 A. No. First, Qwest's Arizona Intrastate 2003 balance sheet<sup>2</sup> does not  
9 reflect a pension asset. In fact, the only item on Qwest's Arizona balance  
10 sheet that has not otherwise been accounted for in Qwest's Arizona rate  
11 base is an item entitled "Other Liabilities". When asked to identify each  
12 item that comprised the \$511 million balance in this account Qwest  
13 indicated that this amount was merely a "reconciling item" or in other  
14 words a plug figure to accommodate the balancing of the Qwest Arizona  
15 balance sheet.

16  
17 Q. Assuming theoretically the purported pension asset were a component of  
18 the \$511 million balance sheet plug figure, would rate base inclusion be  
19 warranted?

20 A. No. Even if theoretically the claimed pension asset were part of the plug  
21 figure, the plug figure is a liability, not an asset. Thus, there must be at  
22 least \$608 million (\$97 million pension debit + \$608 million liabilities credit

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<sup>2</sup> Docket No. T-01051B-03-0454, Schedule E-1, page 1.

1 = \$511 million net credit balance) in unidentified liabilities. These liabilities  
2 have not been recognized or otherwise reflected in Qwest's rate base and  
3 if recognized would more than offset any claimed pension asset.  
4

5 Q. Are there any other reasons why you disagree with the Company's claim  
6 of an investor supplied pension asset?

7 A. Yes. In its application Qwest reflects an actual test year rate base, prior  
8 to adjustments, of \$1,647 million<sup>3</sup>. Further, Qwest's test year actual  
9 capital structure, as reflected in its application is \$1,653 million<sup>4</sup>. Thus,  
10 Qwest's claim of investor supplied capital for an Arizona pension asset is  
11 not possible since the \$1,653 million in actual Arizona capital investment  
12 is sufficient only to support Qwest's test year rate base (which does not  
13 include a pension asset).  
14

15 Q. Has Qwest requested rate base recognition of this claimed pension asset  
16 in prior rate cases?

17 A. Yes. Qwest requested rate base recovery of this same pension asset in  
18 its 1993 rate case. The Commission denied the request in Decision No.  
19 58927.  
20

21 Q. What adjustment have you made?

---

<sup>3</sup> Docket No. T-01051B-0454, Schedule B-2

<sup>4</sup> Docket No. T-01051B-0454, Schedule D-1

1 A. As shown on Schedule MDC-3, Column (F), I have decreased rate base  
2 by \$97.377 million to remove the claimed pension asset. Qwest's balance  
3 sheet does not support its claim of this investor-supplied asset, since its  
4 invested capital is insufficient to support this claimed investment.

5  
6 **Rate Base Adjustment #6 – Materials and Supplies**

7 Q. Has Qwest included its test year Material and Supplies balances in rate  
8 base?

9 A. Yes. Qwest has included \$7.255 million in Material and Supplies balances  
10 in rate base.

11  
12 Q. Do you agree with this inclusion?

13 A. Yes and no. I agree that rate base recovery of a company's investment in  
14 Materials and Supplies inventories is conceptually correct, as well as  
15 accepted ratemaking. However, I do not agree with \$7.255 million  
16 amount reflected in the Company's application.

17  
18 Q. Please explain.

19 A. Pursuant to discovery, Qwest acknowledged that certain Material and  
20 Supply subaccounts that were included in the \$7.255 million should not  
21 have been included. Specifically, one of the accounts had been written off  
22 because it was no longer used in network operations and another

1 subaccount was determined not to be a rate base element subsequent to  
2 Qwest's initial filing in this docket.

3  
4 Q. What adjustment have you made?

5 A. As shown on Schedule MDC-3, Column (G), I have decreased rate base  
6 by \$2.204 million to remove these two subaccounts from Qwest's  
7 Materials and Supply balance. Qwest has acknowledged the need for this  
8 adjustment in its response to data request UTI 14-001.

9  
10 **Rate Base Adjustment #7 - Postretirement Benefits**

11 Q. Has the Company made an adjustment to include its cost of Post  
12 Retirement Benefits pursuant to the Financial Accounting Standards  
13 Board's Statement No. 106?

14 A. Yes.

15  
16 Q. Does RUCO oppose this adjustment?

17 A. No, not in concept. While RUCO opposed ratemaking recognition of FAS  
18 106 when it first became effective over ten years ago, it has since been  
19 accepted by this Commission and incorporated in the ratemaking formula.  
20 The Company, however, has acknowledged certain errors in its post-  
21 retirement benefit calculation, as well as subsequently updated its estimate  
22 of the accumulated postretirement benefit obligation (APBO). The errors  
23 acknowledged by the Company affect the rate base portion of the post

1 retirement adjustment and the APBO estimate update affects test year  
2 operating income, and will be discussed later in that section of my  
3 testimony.

4  
5 Q. What rate base adjustment is necessary?

6 A. As shown on Schedule MDC-5, an increase in plant in service of \$4.7  
7 million and a decrease in accumulated depreciation of \$0.25 million is  
8 necessary. These errors were identified by Qwest in its response to  
9 RUCO data request 3.10.

10  
11 **Rate Base Adjustment #8 – Cash Working Capital**

12 Q. Is the Company requesting rate base recognition of a cash working capital  
13 element?

14 A. Yes. The Company is requesting recognition of negative \$52.173 million  
15 in cash working capital.

16  
17 Q. How did Qwest calculate its cash working capital requirement?

18 A. The Company used a lead/lag study to quantify its cash working capital  
19 requirement.

20  
21 Q. Do you agree with the methodology used by Qwest?

1 A. I agree that a lead/lag study is the most accurate way to measure a  
2 company's cash working capital requirement. However, I disagree with  
3 certain elements of the Company's cash working capital calculation.  
4

5 Q. Please discuss those elements of Qwest's cash working capital calculation  
6 that are inappropriate.

7 A. First, the Company has included a number of expenses in its calculation of  
8 cash working capital that the ACC historically has precluded from the  
9 calculation. These items include depreciation expense, interest expense,  
10 and accrued liabilities. Second, I disagree with Qwest's calculation of its  
11 revenue lead/lag, particularly for local service revenues. Third, Qwest has  
12 failed to include the effects of its rate case proposals on the cash working  
13 capital requirement.  
14

15 Q. Does your calculation of Qwest's working capital requirement correct  
16 these elements?

17 A. Yes. As shown on Schedule MDC-6, I have precluded those items that  
18 the ACC historically has not recognized from my calculation of Qwest's  
19 cash working capital requirement. Second, I have recalculated the  
20 lead/lag days for Qwest's local service revenues. My calculation is based  
21 on the service period and billing dates from actual Qwest residential and  
22 business local service bills. Qwest bills its local service customers for  
23 monthly service prior to rendering a full month of service. My calculation



1 recognizes this local service billing practice and results in a revenue lag of  
2 4 days verses the 20.2 lags days utilized by the Company. Third, my  
3 calculation of Qwest's cash working capital requirement includes the  
4 effects of my revenue requirement recommendations in this docket.  
5 These adjustments are shown on Schedule MDC-6 and result in a  
6 decrease to the cash working capital requirement.

7  
8 **OPERATING INCOME**

9 **Operating Adjustment #1 – Out-of-Period Adjustments**

10 Q. Has the Company proposed an adjustment to remove and/or include from  
11 test year certain out-of-period revenues and expenses?

12 A. Yes. The Company analyzed its test year and post test year revenues  
13 and expenses and identified a number of items that were recorded in a  
14 particular period that related to another period. Qwest's adjustment  
15 includes or removes those out of period items from the test year as  
16 appropriate.

17  
18 Q. Do you agree with this adjustment?

19 A. Yes. It is appropriate to delete or insert, as appropriate, out-of-test-year  
20 items in the context of setting fair and reasonable rates. The discovery  
21 process in this proceeding however, revealed additional out-of-period  
22 items that Qwest had failed to include in its initial adjustment.

1 Q. Are you recommending an adjustment for these additional out-of-period  
2 items?

3 A. Yes. On Schedule MDC-9 I have listed these additional items and  
4 reflected their impact on the test year income statement. I have also  
5 referenced each Qwest data response where the additional item was  
6 recognized. This adjustment reduces the test year expenses by \$7.9  
7 million.

8 Q. Is it your understanding that Qwest agrees with these items?

9 A. Yes. Pursuant to the data responses identified on Schedule MDC-9,  
10 Qwest acknowledges the appropriateness of this adjustment.  
11

12 **Operating Adjustment #2 – Projected Changes in Test Year Revenues**

13 Q. Please discuss Qwest's proposed adjustment to test year revenue levels.

14 A. Qwest has proposed an adjustment to decrease test year revenues by  
15 \$54.080 million to reflect projected future decreases in Qwest customer  
16 levels.  
17

18 Q. Is this adjustment appropriate?

19 A. No. Despite Qwest's high-level discussion of its use of statistical  
20 measures (regression analyses, R-squared factors, and T-scores), this  
21 adjustment amounts to nothing more than speculation of future customer  
22 levels. The adjustment does not meet the known and measurable  
23 standard, matching principle, or historical test year concepts of

1       ratemaking. Further, even if one could get passed these numerous  
2       violations of ratemaking principles, the adjustment is illogical in the context  
3       of Qwest's ratemaking proposal in this case.

4  
5   Q.   Please explain.

6   A.   Qwest's proposed adjustment is based on its premise that it will continue  
7       to lose customers at the same rate that it has in recent years. However, at  
8       the same time it is proposing changes in its price cap plan to allow it to  
9       more effectively compete. In fact Qwest is so confident that its proposed  
10      additional competitive freedom will be successful that it is willing to waive  
11      its claimed revenue deficiency of \$322 million. These two premises are  
12      mutually exclusive.

13  
14   Q.   What adjustment are you recommending?

15   A.   As shown on Schedule MDC-8, Column (C), I have restored the \$54.080  
16       million in test year revenues to Qwest's income statement. Loss of this  
17       revenue is mere speculation on Qwest's part, as well as incompatible with  
18       Qwest's request for greater pricing freedom.

19  
20   **Operating Adjustment #3 – Correction to Deregulated Service Accounts**

21   Q.   Does Qwest's rate application include the revenues and expenses  
22       associated with certain FCC deregulated services?

1 A. Yes. According to Qwest, it has included in its Arizona jurisdictional  
2 revenue requirement the revenues and expenses attributable to services  
3 that have been deregulated by the FCC, because these services have not  
4 yet been deregulated by the ACC.

5  
6 Q. How did the revenues and expenses associated with FCC deregulated  
7 service impact the test year historical test year?

8 A. According to Qwest's test year books and records these FCC deregulated  
9 services operated at a loss of over \$10 million.

10  
11 Q. Under Qwest's currently effective price cap plan through which basket  
12 does it recover the costs of these FCC deregulated services?

13 A. These FCC deregulated services are included primarily in basket 3 under  
14 the current price cap plan.

15  
16 Q. Doesn't the current price cap plan afford pricing flexibility for those  
17 services included in basket 3?

18 A. Yes. Thus, the test year losses associated with these deregulated  
19 services beg the question why the Company allowed these services to  
20 operate at a loss when they had the ability to raise their prices. These  
21 questions were pursued during the discovery process.

22  
23 Q. What was revealed in discovery regarding this issue?

1 A. Pursuant to answering discovery on this issue the Company became  
2 aware that it had incorrectly booked certain expenses to the FCC  
3 deregulated accounts during the test year. Correction of these entries  
4 reveals that the FCC deregulated accounts did not operate at a loss  
5 during test year.

6  
7 Q. Have you made an adjustment to correct the expenses recorded in the  
8 test year for the FCC deregulated accounts?

9 A. Yes. As shown on Schedule MDC-8, Column (D), this adjustment reduces  
10 test year expenses by \$9.892 million.

11  
12 Q. Does Qwest agree with this adjustment?

13 A. Yes. In response to data request UTI 9-008 Qwest agreed that this test  
14 year expense correction is appropriate.

15  
16 **Operating Adjustment #4 – Capitalization of Software**

17 Q. Please explain your recommended adjustment to test year software  
18 expenses.

19 A. As discussed earlier in my testimony regarding rate base, the accounting  
20 profession instituted a change in the appropriate manner of accounting for  
21 software expenses. Qwest's application reflected the impact of this  
22 accounting change for the test year only. The Company now agrees that  
23 it is appropriate to reflect this change from its inception in 1999. As

1 shown on Schedule MDC-10 my operating adjustment #4 adjusts the test  
2 year income statement to reflect the 1999 adoption of SOP98-1.

3  
4 **Operating Adjustment #5 - Postretirement Benefit Amortization**

5 Q. Are you recommending an adjustment to Qwest's postretirement benefit  
6 amortization expense?

7 A. Yes. Under FAS 106, the calculation of postretirement benefit  
8 amortization expense is based in part on an estimate of a company's  
9 accumulated postretirement benefit obligation (APBO). In response to  
10 data request UTI 1-1S1, Qwest provided an updated APBO amount. I  
11 have incorporated this APBO update in the calculation of postretirement  
12 benefit amortization expense. This calculation is shown on Schedule  
13 MDC-11 and results in a \$7.520 million decrease in annual postretirement  
14 benefit amortization expense.

15  
16 **Operating Adjustment #6 - Depreciation Expense**

17 Q. Please discuss Qwest's proposed depreciation expense adjustment.

18 A. As discussed earlier in the rate base section of my testimony, Qwest is  
19 requesting a "technical update" to its depreciation rates. The results of  
20 Qwest's technical update indicate that a decrease in annual depreciation  
21 accruals of approximately \$110 million is warranted.

22  
23 Q. Do you agree?

1 A. Yes, I agree that on a prospective basis a de-acceleration of depreciation  
2 rates is appropriate. The current depreciation rates are a product of the  
3 Commission's authorization<sup>5</sup> of Qwest's request for accelerated  
4 depreciation rates. In that case, RUCO opposed the accelerated  
5 depreciation rate request and argued against the appropriateness of the  
6 abbreviated lives of certain assets. The lower depreciation rates proposed  
7 in this docket are more closely aligned with the rates recommended by  
8 RUCO in the prior depreciation docket.

9  
10 Q. What adjustment are you recommending to Qwest's depreciation  
11 expense?

12 A. I have recalculated Qwest's test year depreciation expense utilizing the  
13 Company's proposed depreciation rates and test year-end plant balances.  
14 There is no difference between the annual accruals calculated by the  
15 Company and those calculated by RUCO. Accordingly, I have made no  
16 adjustment to proforma depreciation expense.

17  
18 **Operating Adjustment #7 – AFUDC Offset Adjustment**

19 Q. Please explain adjustment #7.

20 A. Adjustment #7 removes the revenue offset credit and the depreciation  
21 expense associated with the Company's proposed change in accounting  
22 for CWIP from test year operating income. This adjustment is shown on

---

<sup>5</sup> Decision No. 62507

1 Schedule MDC-8, page 1, Column (H). As discussed earlier in the rate  
2 base portion of my testimony a change in the Commission's methodology  
3 of accounting for CWIP is not warranted.  
4

5 **Operating Adjustment #8 - Property Taxes**

6 Q. What amount of property tax expense is Qwest requesting be included in  
7 rates?

8 A. Included in Qwest's rate application is an estimated property tax expense  
9 of \$64.128 million. According to the Company, this estimate is based on  
10 current property tax rates and its current level of investment.  
11

12 Q. Do you agree with Qwest's estimate of property taxes?

13 A. No. As shown on Schedule MDC-12 I have applied the formula utilized  
14 by the Arizona Department of Revenue to Qwest's adjusted test year plant  
15 and current ADOR property tax rates. The ADOR formula results in  
16 \$54.847 million in property taxes verses the Company's estimate (which  
17 uses an unidentified formula) of \$64.128.  
18

19 Q. What adjustment have you made?

20 A. As shown on Schedule MDC-12, the ADOR formula renders a property tax  
21 expense that is \$9.505 million lower than the amount estimated by the  
22 Company. Since the actual property tax bill that Qwest will be required to



1 pay is based on this same formula, by definition it renders a much more  
2 accurate level of property tax expense.

3  
4 **Operating Adjustment #9 - Incentive Compensation**

5 Q. Does Qwest's test year income statement include any employee bonuses  
6 or other type incentive compensation?

7 A. Yes. Qwest's test year expenses include \$\*\*Confidential\*\* in incentive  
8 compensation that was awarded to employees under Qwest's annual  
9 bonus plan.

10  
11 Q. Please describe the terms of Qwest's annual bonus program.

12 A. Qwest's annual bonus program is based on achievement of targets for  
13 such operating statistics as \*\*Confidential\*\*.

14  
15 Q. What were Qwest's operating results for 2003?

16 A. According to Qwest's 2003 10-K Report the Company as a whole had an  
17 operating loss of \$254 million. On an Arizona jurisdictional basis the  
18 Company had an operating loss of \$154 million.

19  
20 Q. Should Arizona ratepayers be required to fund \$\*\*Confidential\*\* in salary  
21 bonuses for a Company that is operating at a loss?

1 A. No. Certainly, Qwest has the prerogative of rewarding employees for  
2 achieving operating losses, if it chooses. However, ratepayers should not  
3 be required to pay higher rates to fund rewards for poor operating results.  
4

5 Q. What adjustment have you made?

6 A. As shown on Schedule MDC-8, Column (J), I have removed  
7 **\*\*Confidential\*\*** in incentive compensation from test year operating  
8 expenses.  
9

10 **Operating Adjustment #10 - Income Tax Expense**

11 Q. Have you adjusted income tax expense?

12 A. Yes. I have recalculated test year income tax based on RUCO's  
13 recommended level of test year operating income. My test year income  
14 tax calculations are shown on Schedule MDC-14. I have also recalculated  
15 income taxes for RUCO's recommended revenue increase utilizing the  
16 gross revenue conversion factor. These calculations are shown on  
17 Schedule MDC-1, page 3.  
18

19 Q. Does this conclude your direct testimony?

20 A. Yes.



## APPENDIX I

### Qualifications of Marylee Diaz Cortez

**EDUCATION:** University of Michigan, Dearborn  
B.S.A., Accounting 1989

**CERTIFICATION:** Certified Public Accountant - Michigan  
Certified Public Accountant - Arizona

**EXPERIENCE:** Audit Manager  
Residential Utility Consumer Office  
Phoenix, Arizona 85007  
July 1994 - Present

Responsibilities include the audit, review and analysis of public utility companies. Prepare written testimony, schedules, financial statements and spreadsheet models and analyses. Testify and stand cross-examination before Arizona Corporation Commission. Advise and work with outside consultants. Work with attorneys to achieve a coordination between technical issues and policy and legal concerns. Supervise, teach, provide guidance and review the work of subordinate accounting staff.

Senior Rate Analyst  
Residential Utility Consumer Office  
Phoenix, Arizona 85004  
October 1992 - June 1994

Responsibilities included the audit, review and analysis of public utility companies. Prepare written testimony and exhibits. Testify and stand cross-examination before Arizona Corporation Commission. Extensive use of Lotus 123, spreadsheet modeling and financial statement analysis.

Auditor/Regulatory Analyst  
Larkin & Associates - Certified Public Accountants  
Livonia, Michigan  
August 1989 - October 1992

Performed on-site audits and regulatory reviews of public utility companies including gas, electric, telephone, water and sewer throughout the continental United States. Prepared integrated proforma financial statements and rate models for some of the largest public utilities in the United States. Rate models consisted

of anywhere from twenty to one hundred fully integrated schedules. Analyzed financial statements, accounting detail, and identified and developed rate case issues based on this analysis. Prepared written testimony, reports, and briefs. Worked closely with outside legal counsel to achieve coordination of technical accounting issues with policy, procedural and legal concerns. Provided technical assistance to legal counsel at hearings and depositions. Served in a teaching and supervisory capacity to junior members of the firm.

## RESUME OF RATE CASE AND REGULATORY PARTICIPATION

<u>Utility Company</u>	<u>Docket No.</u>	<u>Client</u>
Potomac Electric Power Co.	Formal Case No. 889	Peoples Counsel of District of Columbia
Puget Sound Power & Light Co.	Cause No. U-89-2688-T	U.S. Department of Defense - Navy
Northwestern Bell-Minnesota	P-421/EI-89-860	Minnesota Department of Public Service
Florida Power & Light Co.	890319-EI	Florida Office of Public Counsel
Gulf Power Company	890324-EI	Florida Office of Public Counsel
Consumers Power Company	Case No. U-9372	Michigan Coalition Against Unfair Utility Practices
Equitable Gas Company	R-911966	Pennsylvania Public Utilities Commission
Gulf Power Company	891345-EI	Florida Office of Public Counsel

Jersey Central Power & Light	ER881109RJ	New Jersey Department of Public Advocate Division of Rate Counsel
Green Mountain Power Corp.	5428	Vermont Department of Public Service
Systems Energy Resources	ER89-678-000 & EL90-16-000	Mississippi Public Service Commission
El Paso Electric Company	9165	City of El Paso
Long Island Lighting Co.	90-E-1185	New York Consumer Protection Board
Pennsylvania Gas & Water Co.	R-911966	Pennsylvania Office of Consumer Advocate
Southern States Utilities	900329-WS	Florida Office of Public Counsel
Central Vermont Public Service Co.	5491	Vermont Department of Public Service
Detroit Edison Company	Case No. U-9499	City of Novi
Systems Energy Resources	FA-89-28-000	Mississippi Public Service Commission
Green Mountain Power Corp.	5532	Vermont Department of Public Service
United Cities Gas Company	176-717-U	Kansas Corporation Commission

General Development Utilities	911030-WS & 911067-WS	Florida Office of Public Counsel
Hawaiian Electric Company	6998	U.S. Department of Defense - Navy
Indiana Gas Company	Cause No. 39353	Indiana Office of Consumer Counselor
Pennsylvania American Water Co.	R-00922428	Pennsylvania Office of Consumer Advocate
Wheeling Power Co.	Case No. 90-243-E-42T	West Virginia Public Service Commission Consumer Advocate Division
Jersey Central Power & Light Co.	EM89110888	New Jersey Department of Public Advocate Division of Rate Counsel
Golden Shores Water Co.	U-1815-92-200	Residential Utility Consumer Office
Consolidated Water Utilities	E-1009-92-135	Residential Utility Consumer Office
Sulphur Springs Valley Electric Cooperative	U-1575-92-220	Residential Utility Consumer Office
North Mohave Valley Corporation	U-2259-92-318	Residential Utility Consumer Office
Graham County Electric Cooperative	U-1749-92-298	Residential Utility Consumer Office

Graham County Utilities	U-2527-92-303	Residential Utility Consumer Office
Consolidated Water Utilities	E-1009-93-110	Residential Utility Consumer Office
Litchfield Park Service Co.	U-1427-93-156 & U-1428-93-156	Residential Utility Consumer Office
Pima Utility Company	U-2199-93-221 & U-2199-93-222	Residential Utility Consumer Office
Arizona Public Service Co.	U-1345-94-306	Residential Utility Consumer Office
Paradise Valley Water	U-1303-94-182	Residential Utility Consumer Office
Paradise Valley Water	U-1303-94-310 & U-1303-94-401	Residential Utility Consumer Office
Pima Utility Company	U-2199-94-439	Residential Utility Consumer Office
SaddleBrooke Development Co.	U-2492-94-448	Residential Utility Consumer Office
Boulders Carefree Sewer Corp.	U-2361-95-007	Residential Utility Consumer Office
Rio Rico Utilities	U-2676-95-262	Residential Utility Consumer Office
Rancho Vistoso Water	U-2342-95-334	Residential Utility Consumer Office
Arizona Public Service Co.	U-1345-95-491	Residential Utility Consumer Office
Citizens Utilities Co.	E-1032-95-473	Residential Utility Consumer Office
Citizens Utilities Co.	E-1032-95-417 et al.	Residential Utility Consumer Office



Paradise Valley Water	U-1303-96-283 & U-1303-95-493	Residential Utility Consumer Office
Far West Water	U-2073-96-531	Residential Utility Consumer Office
Southwest Gas Corporation	U-1551-96-596	Residential Utility Consumer Office
Arizona Telephone Company	T-2063A-97-329	Residential Utility Consumer Office
Far West Water Rehearing	W-0273A-96-0531	Residential Utility Consumer Office
SaddleBrooke Utility Company	W-02849A-97-0383	Residential Utility Consumer Office
Vail Water Company	W-01651A-97-0539 & W-01651B-97-0676	Residential Utility Consumer Office
Black Mountain Gas Company Northern States Power Company	G-01970A-98-0017 G-03493A-98-0017	Residential Utility Consumer Office
Paradise Valley Water Company Mummy Mountain Water Company	W-01303A-98-0678 W-01342A-98-0678	Residential Utility Consumer Office
Bermuda Water Company	W-01812A-98-0390	Residential Utility Consumer Office
Bella Vista Water Company Nicksville Water Company	W-02465A-98-0458 W-01602A-98-0458	Residential Utility Consumer Office
Paradise Valley Water Company	W-01303A-98-0507	Residential Utility Consumer Office
Pima Utility Company	SW-02199A-98-0578	Residential Utility Consumer Office
Far West Water & Sewer Company	WS-03478A-99-0144 Interim Rates	Residential Utility Consumer Office
Vail Water Company	W-01651B-99-0355 Interim Rates	Residential Utility Consumer Office

Far West Water & Sewer Company	WS-03478A-99-0144	Residential Utility Consumer Office
Sun City Water and Sun City West	W-01656A-98-0577 & SW-02334A-98-0577	Residential Utility Consumer Office
Southwest Gas Corporation ONEOK, Inc.	G-01551A-99-0112 G-03713A-99-0112	Residential Utility Consumer Office
Table Top Telephone	T-02724A-99-0595	Residential Utility Consumer Office
U S West Communications Citizens Utilities Company	T-01051B-99-0737 T-01954B-99-0737	Residential Utility Consumer Office
Citizens Utilities Company	E-01032C-98-0474	Residential Utility Consumer Office
Southwest Gas Corporation	G-01551A-00-0309 & G-01551A-00-0127	Residential Utility Consumer Office
Southwestern Telephone Company	T-01072B-00-0379	Residential Utility Consumer Office
Arizona Water Company	W-01445A-00-0962	Residential Utility Consumer Office
Litchfield Park Service Company	W-01427A-01-0487 & SW-01428A-01-0487	Residential Utility Consumer Office
Bella Vista Water Co., Inc.	W-02465A-01-0776	Residential Utility Consumer Office
Generic Proceedings Concerning Electric Restructuring Issues	E-00000A-02-0051	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-02-0707	Residential Utility Consumer Office
Qwest Corporation	RT-00000F-02-0271	Residential Utility Consumer Office

Arizona Public Service Company	E-01345A-02-0403	Residential Utility Consumer Office
Citizens/UniSource	G-01032A-02-0598 E-01032C-00-0751 E-01933A-02-0914 E-01302C-02-0914 G-01302C-02-0914	Residential Utility Consumer Office
Arizona-American Water Company	WS-01303A-02-0867	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-03-0437	Residential Utility Consumer Office
UniSource	E-04230A-03-0933	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-04-0407	Residential Utility Consumer Office



QWEST CORPORATION  
DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
TABLE OF CONTENTS TO SCHEDULES MDC

SCHEDULE #

MDC-1	ARIZONA INTRASTATE REVENUE REQUIREMENTS (000'S)
MDC-2	ARIZONA INTRASTATE ORIGINAL COST RATE BASE (000'S)
MDC-3	SUMMARY OF RATE BASE ADJUSTMENTS (000'S)
MDC-4	RATE BASE ADJ #2 - SOFTWARE CAPITALIZATION
MDC-5	RATE BASE ADJ #7 -POST RETIREMENT BENEFITS
MDC-6	RATE BASE ADJ #8 - WORKING CAPITAL
MDC-7	ARIZONA INTRASTATE OPERATING INCOME (000'S)
MDC-8	SUMMARY OF OPERATING ADJUSTMENTS (000'S)
MDC-9	OPERATING ADJ #1 - CORRECT OUT OF PERIOD ADJUSTMENT
MDC-10	OPERATING ADJ #4 - CAPITALIZATION OF SOFTWARE
MDC-11	OPERATING ADJ #5 - POST RETIREMENT BENEFITS
MDC-12	OPERATING ADJ #8 - PROPERTY TAX EXPENSE
MDC-13	OPERATING ADJ #9 - INCENTIVE COMPENSATION
MDC-14	OPERATING ADJ #10 - INCOME TAX EXPENSE
MDC-15	COST OF CAPITAL (000's)

QWEST CORPORATION  
 TEST YEAR ENDED DECEMBER 31, 2002  
 ARIZONA INTRASTATE REVENUE REQUIREMENTS (000'S)

DOCKET NO. T-01051B-03-0454  
 DOCKET NO. T-00000D-00-0672  
 SCHEDULE MDC-1  
 PAGE 1 OF 3

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST	(B) COMPANY RCND	(C) COMPANY FAIR VALUE	(D) RUCO ORIGINAL COST	(E) RUCO RCND	(F) RUCO FAIR VALUE
1	ADJUSTED RATE BASE	\$ 1,643,000	\$ 3,190,550	\$ 2,416,775	\$ 1,489,135	\$ 3,080,606	\$ 2,284,871
2	ADJUSTED OPERATING INCOME	(5,054)	(5,054)	(5,054)	35,579	35,579	35,579
3	CURRENT RATE OF RETURN (L2 / L1)	-0.31%	-0.16%	-0.21%	2.39%	1.15%	1.56%
4	REQUIRED RATE OF RETURN	11.18%	5.76%	7.60%	8.73%	4.22%	5.69%
5	REQUIRED OPERATING INCOME (L4 * L1)	183,687	183,687	183,687	130,001	130,001	130,001
6	OPERATING INCOME DE(SUF)ICIENCY (L5 - L2)	188,741	188,741	188,741	94,423	94,423	94,423
7	GROSS REVENUE CONVERSION FACTOR	1.6876	1.6876	1.6876	1.6896	1.6896	1.6896
8	GROSS REVENUE INCREASE	\$ 318,525	\$ 318,525	\$ 318,525	\$ 159,537	\$ 159,537	\$ 159,537
9	CURRENT REVENUES T/Y ADJUSTED	\$ 1,111,068	\$ 1,111,068	\$ 1,111,068	\$ 1,165,053	\$ 1,165,053	\$ 1,165,053
10	PROPOSED ANNUAL REVENUE (L8 + L9)	\$ 1,429,593	\$ 1,429,593	\$ 1,429,593	\$ 1,324,590	\$ 1,324,590	\$ 1,324,590
11	PERCENTAGE AVERAGE INCREASE	28.67%	28.67%	28.67%	13.69%	13.69%	13.69%

REFERENCES:  
 COLUMNS (A) THRU (C): COMPANY FILING A SCHEDULES  
 COLUMNS (D) THRU (F): SCHEDULES MDC-1, PG 2, MDC-2, MDC-7, AND MDC-15

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
ARIZONA INTRASTATE RCND RATE BASE (000'S)

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-1  
PAGE 2 OF 3

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO ADJUSTMENTS	(C) RUCO ADJUSTED
1	PLANT IN SERVICE	\$ 5,867,828	\$ 188,284	\$ 6,056,112
2	LESS: DEPRECIATION RESERVE	2,512,352	158,450	2,670,802
3	NET PLANT IN SERVICE	\$ 3,373,405	\$ 29,834	\$ 3,385,310
4	SHORT TERM PLANT UNDER CONSTRUCTION	\$ 21,448	\$ (21,448)	\$ -
5	MATERIALS AND SUPPLIES	7,255	(2,204)	5,051
6	ALLOWANCE FOR CASH WORKING CAPITAL	(52,173)	(10,618)	(62,791)
7	DEFERRED INCOME TAXES	251,439	(9,797)	241,642
8	CUSTOMER DEPOSITS	3,299	-	3,299
9	LAND DEVELOPMENT AGREEMENT DEPOSITS	2,023	-	2,023
10	OTHER ASSETS AND LIABILITIES	97,377	(97,377)	-
11	TOTAL RATE BASE	\$ 3,190,550	\$ (92,015)	\$ 3,080,606

REFERENCES:

COLUMN (A): COMPANY FILING B SCHEDULES  
COLUMN (B): SCHEDULE MDC-2 x RCND FACTOR  
COLUMN (C): COLUMN (A) + COLUMN (B)

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>TOTAL AMOUNT</u>	<u>REFERENCE</u>
1	REVENUE	1.0000000	
2	UNCOLLECTIBLES	<u>0.021220</u>	COMPANY SCH. C-3
3	SUB-TOTAL	0.978780	LINE 1 - LINE 2
4	LESS: TAX RATE	<u>38.69%</u>	NOTE (a)
5	TOTAL	0.5919	LINE 3 - LINE 4
6	REVENUE CONVERSION FACTOR	<u>1.68960</u>	LINE 1/LINE 5

NOTE (a):

CALCULATION OF EFFECTIVE TAX RATE

OPERATING INCOME BEFORE TAXES	100.00%
ARIZONA STATE TAX	<u>6.97%</u>
TAXABLE INCOME FEDERAL	93.03%
FEDERAL INCOME TAX RATE	<u>35.00%</u>
SUBTOTAL	32.56%
ADD STATE TAX RATE	39.53%
LINE 3 ABOVE	<u>97.88%</u>
EFFECTIVE TAX RATE	38.69%



QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
ARIZONA INTRASTATE ORIGINAL COST RATE BASE (000'S)

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-2

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO ADJUSTMENTS	(C) RUCO ADJUSTED
1	PLANT IN SERVICE	\$ 4,750,352	\$ 152,427	\$ 4,902,779
2	LESS: DEPRECIATION RESERVE	2,924,497	184,443	3,108,940
3	NET PLANT IN SERVICE	<u>\$ 1,825,855</u>	<u>\$ (32,016)</u>	<u>\$ 1,793,839</u>
4	SHORT TERM PLANT UNDER CONSTRUCTION	\$ 21,448	\$ (21,448)	\$ -
5	MATERIALS AND SUPPLIES	7,255	(2,204)	5,051
6	ALLOWANCE FOR CASH WORKING CAPITAL	(52,173)	(10,618)	(62,791)
7	DEFERRED INCOME TAXES	251,439	(9,797)	241,642
8	CUSTOMER DEPOSITS	3,299	-	3,299
9	LAND DEVELOPMENT AGREEMENT DEPOSITS	2,023	-	2,023
10	OTHER ASSETS AND LIABILITIES	97,377	(97,377)	-
11	TOTAL RATE BASE	<u><u>\$ 1,643,001</u></u>	<u><u>\$ (153,866)</u></u>	<u><u>\$ 1,489,135</u></u>

REFERENCES:

COLUMN (A): COMPANY SCHEDULE B-1  
COLUMN (B): SCHEDULE MDC-3  
COLUMN (C): COLUMN (A) + COLUMN (B)

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
SUMMARY OF RATE BASE ADJUSTMENTS (000'S)

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-3

LINE NO.	DESCRIPTION	(A) COMPANY	(B) ADJ. #1	(C) ADJ. #2	(D) ADJ. #3	(E) ADJ. #4	(F) ADJ. #5	(G) ADJ. #6	(H) ADJ. #7	(I) ADJ. #8	(J) RUCO ADJUSTED
1	PLANT IN SERVICE	\$4,750,352		146,657	1,047	12,363			4,723		\$ 4,902,779
2	LESS: DEPRECIATION RESERVE	2,924,497	109,701	62,632					(253)		3,108,940
3	NET PLANT IN SERVICE	\$1,825,855	\$(109,701)	\$ 84,025	\$ 1,047	\$ (12,363)	\$ -	\$ -	\$ 4,976	\$ -	\$ 1,793,839
4	SHORT TERM PLANT UNDER CONSTRUCTION	\$ 21,448			\$ (21,448)			(2,204)			\$ -
5	MATERIALS AND SUPPLIES	7,255								(10,618)	5,051
6	ALLOWANCE FOR CASH WORKING CAPITAL	(52,173)									(62,791)
7	DEFERRED INCOME TAXES	251,439	(43,040)	33,243							241,642
8	CUSTOMER DEPOSITS	3,299									3,299
9	LAND DEVELOPMENT AGREEMENT DEPOSITS	2,023					(97,377)				2,023
10	OTHER ASSETS AND LIABILITIES	97,377									-
11	TOTAL RATE BASE	\$1,643,001	\$ (66,661)	\$ 50,782	\$ (20,401)	\$ (12,363)	\$ (97,377)	\$ (2,204)	\$ 4,976	\$ (10,618)	\$ 1,489,135

ADJUSTMENT #:	REFERENCE:
1. REINSTATE HISTORICAL ACCUM. DEPREC.	TESTIMONY MDC
2. SOFTWARE CAPITALIZATION CORRECTION	SCHEDULE MDC-4
3. CWIP	TESTIMONY MDC
4. STATION APPARATUS - ACCUM. DEPREC.	TESTIMONY MDC
5. PENSION ASSET	TESTIMONY MDC
6. MATERIALS & SUPPLIES	TESTIMONY MDC
7. POST RETIREMENT BENEFITS	SCHEDULE MDC-5
8. WORKING CAPITAL	SCHEDULE MDC-6

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
RATE BASE ADJ #2 - CAPITALIZATION OF SOFTWARE  
CORRECTIONS TO COMPANY ADJUSTMENT

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-4

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
1	<u>PLANT</u> SOFTWARE CAPITALIZED PER FILING (ASSUMES CAPITALIZATION OF 2003 ONLY)	\$0	QWEST W/P PFA-03
2	SOFTWARE CAPITALIZATION AS CORRECTED (ASSUMES CAPITALIZATION SINCE 1998)	146,657	DR UTI 04-002
3	INCREASE IN PLANT	<u>\$146,657</u>	LINE 1 + LINE 2
4	<u>ACCUM. DEPREC. &amp; AMORTIZATION</u> SOFTWARE ACCUM. DEPR. & AMORT. PER FILING	6,001	QWEST W/P PFA-03
5	SOFTWARE ACCUM. DEPR. & AMORT. AS CORRECTED	<u>68,633</u>	DR UTI 04-002
6	INCREASE IN ACCUM. DEPR. & AMORT.	<u>\$62,632</u>	LINE 5 - LINE 4
7	<u>ACCUMULATED DEFERRED INCOME TAXES</u> SOFTWARE ADIT PER FILING	(2,354)	QWEST W/P PFA-03
8	SOFTWARE ADIT AS CORRECTED	<u>30,889</u>	DR UTI 04-002
9	INCREASE IN ADIT	<u>\$33,243</u>	LINE 8 - LINE 7

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
RATE BASE ADJ #7 - POSTRETIREMENT BENEFITS

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-5

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>	<u>REFERENCE</u>
1	PLANT IN SERVICE ADJ. PER FILING	(\$131,998)	SCHEDULE B-2, PAGE 4
2	PLANT IN SERVICE ADJ. AS CORRECTED	<u>(127,275)</u>	DR RUCO 3-10
3	ADJUSTMENT TO PLANT IN SERVICE	<span style="border: 1px solid black; padding: 2px;">\$4,723</span>	LINE 2 - LINE 1
4	ACCUM. DEPREC. AND AMORT. PER FILING	(80)	SCHEDULE B-2, PAGE 4
5	ACCUM. DEPREC. AND AMORT. AS CORRECTED	<u>(333)</u>	DR RUCO 3-10
6	ADJUSTMENT TO ACCUM. DEPREC. AND AMORT.	<span style="border: 1px solid black; padding: 2px;">(\$253)</span>	LINE 5 - LINE 4

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
RATE BASE ADJ #8 - WORKING CAPITAL

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-6  
PAGE 1 OF 2

LINE NO.	DESCRIPTION	(A) AMOUNT AS FILED	(B) RUCO ADJS.	(C) RUCO ADJUSTED	(D) LEAD/LAG DAYS	(E) DOLLAR DAYS
	<u>OPERATING EXPENSES</u>					
1	MAINTENANCE	\$201,587	(2,715)	198,872	22.80	4,534,278
2	ENGINEERING	8,836	(3,008)	5,828	25.40	148,036
3	NETWORK OPERATIONS	46,464	(7,386)	39,078	21.90	855,817
4	NETWORK ADMINISTRATION	1,417	(28)	1,389	22.50	31,243
5	ACCESS	9,041	0	9,041	54.70	494,543
6	OTHER	390	(18)	372	35.30	13,143
7	CUSTOMER OPERATIONS	164,981	(18,156)	146,825	26.70	3,920,220
8	CORPORATE OPERATIONS	179,839	(20)	179,819	35.00	6,293,676
9	PROPERTY TAXES	63,033	(9,505)	53,528	202.60	10,844,705
10	OTHER TAXES	3,382		3,382	(183.90)	(621,950)
11	UNCOLLECTIBLES	18,119		18,119	22.70	411,301
12	INCOME TAXES	(36,251)	67,416	31,165	61.10	1,904,195
13	TOTAL OPERATING EXPENSES	\$660,838	\$26,580	\$687,418		28,829,209
14	AVERAGE EXPENSE LAG				41.94	
15	AVERAGE REVENUE LAG				8.60	
16	NET LEAD/LAG				(33.34)	
17	TOTAL EXPENSE				687,418	
18	CASH WORKING CAPITAL REQUIREMENT				(62,791)	
19	CASH WORKING CAPITAL PER COMPANY				(52,173)	
20	ADJUSTMENT TO CASH WORKING CAPITAL				<u>(\$10,618)</u>	

REFERENCES

- COLUMN (A): DR UTI 02-013
- COLUMN (B): SCHEDULE MDC-8
- COLUMN (C): COLUMN (A) + COLUMN (B)
- COLUMN (D): DR UTI 02-013
- COLUMN (E): COLUMN (C) x COLUMN (D)

OWEST CORPORATION  
 TEST YEAR ENDED DECEMBER 31, 2003  
 RATE BASE ADJ #8 - WORKING CAPITAL  
 CALCULATION OF REVENUE LEAD/LAGS

DOCKET NO. T-01051B-03-0454  
 DOCKET NO. T-00000D-00-0672  
 SCHEDULE MDC-6  
 PAGE 2 OF 2

LINE NO.	(A) ACCT. NOS.	(B) REVENUE TYPE	(C) PAYMENT DUE DATE	(D) SERVICE PERIOD MIDPOINT	(E) REVENUE (LEAD)/LAG	(F) ANNUAL REVENUE	(G) DOLLAR DAYS	REFERENCE
1	5000	LOCAL - ADVANCE	9/5/2003	9/1/2003	4	\$788,477,214	3,153,908,856	ACTUAL QWEST LOCAL SERVICE BILLS
2		LOCAL - ARREARS			15.2	54,195,999	823,779,185	COMPANY WORKSHEET WS1C1
3	5080	ACCESS	11/3/2003	9/17/2003	45.2	72,786,000	3,289,927,200	COMPANY WORKSHEET WS2A2
4	5100	LONG DISTANCE	10/17/2003	9/1/2003	46.7	11,163,000	521,312,100	COMPANY WORKSHEET WS3B1
5	5270	BILL & COLLECT	11/3/2003	9/17/2003	45.2	5,330,000	240,916,000	COMPANY WORKSHEET WS3B1
6	5260	MISCELLANEOUS			23.2	97,735,000	2,267,452,000	COMPANY WORKSHEET WS5C1
7		TOTAL				\$1,029,687,213	8,029,843,341	SUM LINES 1 THROUGH 6
8		REVENUE LAG			7.80			LINE 7 COLUMN (E)/LINE 7 COLUMN (D)
9		DEPOSIT LAG			0.80			COMPANY WORK SHEET 1
10		TOTAL REVENUE LAG					-8.60	

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
ARIZONA INTRASTATE OPERATING INCOME (000'S)

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-7

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO ADJUSTMENTS	(C) RUCO TEST YEAR AS ADJUSTED	(D) RUCO PROPOSED CHANGES	(E) RUCO RECOMMENDED
	OPERATING REVENUES:					
1	LOCAL SERVICE REVENUES	\$ 775,134	\$ 47,162	\$ 822,296	\$ 159,537	\$ 981,833
2	NETWORK ACCESS SERVICE REVENUES	65,547	334	65,881	-	65,881
3	LONG DISTANCE NETWORK SERVICE REVENUES	8,586	2,577	11,163	-	11,163
4	MISCELLANEOUS REVENUES	261,801	3,912	265,713	-	265,713
5	TOTAL OPERATING REVENUES	\$ 1,111,068	\$ 53,985	\$ 1,165,053	\$ 159,537	\$ 1,324,590
	EXPENSES:					
6	MAINTENANCE	\$ 246,117	\$ (2,715)	\$ 243,401	\$ -	\$ 243,401
7	ENGINEERING EXPENSE	10,519	(3,008)	7,511	-	7,511
8	NETWORK OPERATIONS	69,967	(7,386)	62,581	-	62,581
9	NETWORK ADMINISTRATION	1,681	(28)	1,652	-	1,652
10	ACCESS EXPENSE	9,041	-	9,041	-	9,041
11	OTHER EXPENSE	555	(18)	537	-	537
12	CUSTOMER OPERATIONS	188,545	(18,156)	170,389	-	170,389
13	CORPORATE OPERATIONS	202,806	(20)	202,786	-	202,786
14	PROPERTY & OTHER TAXES	67,424	(9,505)	57,919	-	57,919
15	UNCOLLECTIBLES	19,634	-	19,634	-	19,634
16	OTHER OPERATING INCOME & EXPENSE	(44)	-	(44)	-	(44)
17	DEPRECIATION EXPENSE	364,079	23,939	388,018	-	388,018
18	UNIVERSAL SERVICE FUND	-	-	-	-	-
19	LINK UP AMERICA	(2)	-	(2)	-	(2)
20	TOTAL OPERATING EXPENSES	\$ 1,180,320	\$ (16,897)	\$ 1,163,423	\$ -	\$ 1,163,423
	TAXES:					
21	FEDERAL INCOME TAX	\$ (52,028)	\$ 24,064	\$ (27,964)	\$ 53,636	\$ 25,672
22	STATE & LOCAL INCOME TAX	(12,170)	6,186	(5,984)	11,478	5,494
23	TOTAL OPERATING INCOME	\$ (5,054)	\$ 40,633	\$ 35,579	\$ 94,423	\$ 130,001

REFERENCES:  
COLUMN (A): COMPANY SCHEDULE C-1  
COLUMN (B): SCHEDULE MDC-8  
COLUMN (C): COLUMN (A) + COLUMN (B)  
COLUMN (D): SCHEDULE MDC-1  
COLUMN (E): COLUMN (C) + COLUMN (D)

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
SUMMARY OF OPERATING ADJUSTMENTS (000'S)

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-8  
PAGE 1 OF 2

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) ADJ. #1	(C) ADJ. #2	(D) ADJ. #3	(E) ADJ. #4	(F) ADJ. #5	(G) ADJ. #6	(H) ADJ. #7
<u>OPERATING REVENUES:</u>									
1	LOCAL SERVICE REVENUES	\$ 775,134	\$ -	\$ 47,162	\$ -	\$ -	\$ -	\$ -	\$ -
2	NETWORK ACCESS SERVICE REVENUES	65,547	-	334	-	-	-	-	-
3	LONG DISTANCE NETWORK SERVICE REVENUES	8,586	-	2,577	-	-	-	-	-
4	MISCELLANEOUS REVENUES	261,801	-	4,007	-	-	-	-	(95)
5	TOTAL OPERATING REVENUES	\$ 1,111,068	\$ -	\$ 54,080	\$ -	\$ -	\$ -	\$ -	\$ (95)
<u>EXPENSES:</u>									
6	MAINTENANCE	\$ 246,117	\$ -	\$ -	\$ -	\$ -	\$ (2,715)	\$ -	\$ -
7	ENGINEERING EXPENSE	10,519	-	-	-	-	(203)	-	-
8	NETWORK OPERATIONS	69,967	-	-	-	-	(1,776)	-	-
9	NETWORK ADMINISTRATION	1,681	-	-	-	-	(28)	-	-
10	ACCESS EXPENSE	9,041	-	-	-	-	0	-	-
11	OTHER EXPENSE	555	-	-	-	-	(18)	-	-
12	CUSTOMER OPERATIONS	188,545	(7,909)	2,405	(9,892)	-	(2,760)	-	-
13	CORPORATE OPERATIONS	202,806	-	-	-	-	(20)	-	-
14	PROPERTY & OTHER TAXES	67,424	-	-	-	-	-	-	-
15	UNCOLLECTIBLES	19,634	-	-	-	-	-	-	-
16	OTHER OPERATING INCOME & EXPENSE	(44)	-	-	-	-	-	-	-
17	DEPRECIATION EXPENSE	364,079	-	-	-	23,868	-	-	71
18	UNIVERSAL SERVICE FUND	-	-	-	-	-	-	-	-
19	LINK UP AMERICA	(2)	-	-	-	-	-	-	-
20	TOTAL OPERATING EXPENSES	\$ 1,180,320	\$ (7,909)	\$ 2,405	\$ (9,892)	\$ 23,868	\$ (7,521)	\$ -	\$ 71
<u>TAXES:</u>									
21	FEDERAL INCOME TAX	\$ (52,028)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22	STATE & LOCAL INCOME TAX	(12,170)	-	-	-	-	-	-	-
23	TOTAL OPERATING INCOME	\$ (5,054)	\$ 7,909	\$ 51,675	\$ 9,892	\$ (23,868)	\$ 7,521	\$ -	\$ (166)

ADJUSTMENT #:

1. CORRECTIONS & TRUE-UPS FOR PFN-01
2. REMOVE PROJECTED REVENUE CHANGES
3. CORRECT ERROR IN DEREG. ACCOUNTS
4. SOFTWARE CAPITALIZATION CORRECTION
5. POST RETIREMENT BENEFIT AMORT.
6. DEPRECIATION EXPENSE
7. REMOVE AFUDC REVENUE RECOGNITION

REFERENCE:

- SCHEDULE MDC-9
- TESTIMONY MDC
- TESTIMONY MDC
- SCHEDULE MDC-10
- SCHEDULE MDC-11
- TESTIMONY MDC
- TESTIMONY MDC



QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
SUMMARY OF OPERATING ADJUSTMENTS (000'S)

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-8  
PAGE 2 OF 2

LINE NO.	DESCRIPTION	(I) ADJ. #8	(J) ADJ. #9	(K) ADJ. #10	(L) RUCO TEST YEAR AS ADJUSTED
	<u>OPERATING REVENUES:</u>				
1	LOCAL SERVICE REVENUES	\$ -	\$ -	\$ -	\$ 822,296
2	NETWORK ACCESS SERVICE REVENUES	-	-	-	65,881
3	LONG DISTANCE NETWORK SERVICE REVENUES	-	-	-	11,163
4	MISCELLANEOUS REVENUES	-	-	-	265,713
5	TOTAL OPERATING REVENUES	\$ -	\$ -	\$ -	\$ 1,165,053
	<u>EXPENSES:</u>				
6	MAINTENANCE	\$ -	\$ -	\$ -	\$ 243,401
7	ENGINEERING EXPENSE	-	(2,805)	-	7,511
8	NETWORK OPERATIONS	-	(5,609)	-	62,581
9	NETWORK ADMINISTRATION	-	-	-	1,652
10	ACCESS EXPENSE	-	-	-	9,041
11	OTHER EXPENSE	-	-	-	537
12	CUSTOMER OPERATIONS	-	-	-	170,389
13	CORPORATE OPERATIONS	-	-	-	202,786
14	PROPERTY & OTHER TAXES	(9,505)	-	-	57,919
15	UNCOLLECTIBLES	-	-	-	19,634
16	OTHER OPERATING INCOME & EXPENSE	-	-	-	(44)
17	DEPRECIATION EXPENSE	-	-	-	388,018
18	UNIVERSAL SERVICE FUND	-	-	-	-
19	LINK UP AMERICA	-	-	-	(2)
20	TOTAL OPERATING EXPENSES	\$ (9,505)	\$ (8,414)	\$ -	\$ 1,163,423
	<u>TAXES:</u>				
21	FEDERAL INCOME TAX	\$ -	\$ -	\$ 24,064	\$ (27,964)
22	STATE & LOCAL INCOME TAX	-	-	6,186	(5,984)
23	TOTAL OPERATING INCOME	\$ 9,505	\$ 8,414	\$ (30,249)	\$ 35,579

ADJUSTMENT #	REFERENCE
8. PROPERTY TAXES	SCHEDULE MDC-12
9. INCENTIVE COMPENSATION	SCHEDULE MDC-13
10. INCOME TAX EXPENSE	SCHEDULE MDC-14

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
OPERATING ADJ #1 - CORRECT OUT OF PERIOD  
PROFORMA ADJUSTMENT

DOCKET NO. T-010513-03-0434  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-9

LINE NO.	DESCRIPTION	ADJUSTMENT TO CORRECT FILED AMT.	REFERENCE
1	BRI RENT TRUE-UP	(\$336,480)	DR UTI 08-001
2	QLDC TRUE-UP	(129,145)	DR UTI 04-032, UTI 07-002
3	QCC TRUE-UP	(127,739)	DR UTI 04-032, UTI 07-002
4	BSI COLLOCATION TRUE-UP	529,800	DR UTI 07-002
5	QSC PAYABLE	107,354	DR UTI 04-031, UTI 07-002
6	BRI ADJUSTMENT	159,619	DR UTI 04-031, UTI 07-002
7	QIT ADJUSTMENT	(9,094,140)	DR UTI 04-031, UTI 07-002
8	BRI ADJ. LEASE VS. HEADCOUNT	(1,140,052)	DR UTI 04-033
9	WIRELESS B&C REVENUE	<u>2,121,837</u>	DR UTI 03-036S1
10	TOTAL ADJUSTMENT	<u><u>(\$7,908,946)</u></u>	

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
OPERATING ADJ #4 - CAPITALIZATION OF SOFTWARE  
CORRECTIONS TO COMPANY ADJUSTMENT

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-10

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
	<u>CUSTOMER OPERATIONS EXPENSE</u>		
1	DECREASE IN CUSTOMER EXPENSE PER FILING (ASSUMES CAPITALIZATION OF 2003 ONLY)	\$18,659	COMPANY W/P PFA-03
2	DECREASE IN CUSTOMER EXPENSE AS CORRECTED	<u>18,659</u>	DR UTI 04-001
3	CUSTOMER EXPENSE ADJUSTMENT	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0</div>	LINE 1 - LINE 2
	<u>DEPRECIATION &amp; AMORTIZATION EXPENSE</u>		
4	INCREASE IN DEPRECIATION EXPENSE PER FILING	4,332	COMPANY W/P PFA-03
5	INCREASE IN DEPRECIATION EXPENSE AS CORRECTED	<u>28,200</u>	DR UTI 04-001
6	DEPRECIATION & AMORTIZATION ADJUSTMENT	<div style="border: 1px solid black; padding: 2px; display: inline-block;">\$23,868</div>	LINE 5 - LINE 4

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
OPERATING ADJ #5 - POST RETIREMENT BENEFITS

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-11

LINE NO.	DESCRIPTION	MEDICAL AMOUNT	LIFE AMOUNT	TOTAL	REFERENCE
1	UPDATED APBO	\$4,537,218,343	578,942,361	5,116,160,704	UTI 1-1S1
2	AZ ALLOCATION FACTOR	17.29%	17.29%	17.29%	UTI 1-1S1
3	SUBTOTAL	784,702,838	100,126,923	884,829,761	LINE 1 x LINE 2
4	AZ INTRASTATE FACTOR	76.09%	76.09%	76.09%	UTI 1-1S1
5	AZ INTRASTATE APBO	597,042,724	76,181,770	673,224,494	LINE 3 x LINE 4
6	AMORTIZATION EXPENSE	59,704,272	7,618,177	67,322,449	LINE 5/10 YEARS
7	AMORTIZATION EXP. PER FILING	67,210,000	7,633,000	74,843,000	UTI 1-1S1
8	ADJUSTMENT	(\$7,505,728)	(\$14,823)	(\$7,520,551)	LINE 6 - LINE 7

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
OPERATING ADJ #8 - PROPERTY TAX EXPENSE

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-12

<u>LINE NO.</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>	<u>REFERENCE</u>
1	PLANT IN SERVICE	\$ 4,902,779,000	SCHEDULE MDC-2
2	ACCUMULATED DEPRECIATION	<u>3,108,940,000</u>	SCHEDULE MDC-2
3	NET PLANT	\$ 1,793,839,000	LINE 1 - LINE 2
4	NON-CAPITAL LEASES	<u>                    </u>	
5	FULL CASH VALUE	\$ 1,793,839,000	LINE 3 + LINE 4
6	ASSESSMENT RATIO	<u>0.25</u>	ADOR
7	ASSESSED VALUE	\$ 448,459,750	LINE 5 x LINE 6
8	TAX RATE	<u>0.1218</u>	ADOR
9	T/Y PROPERTY TAXES	\$ 54,622,398	LINE 7 x LINE 8
10	PER COMPANY	<u>64,127,734</u>	CO. W/P ADJ# PFN-10
11	ADJUSTMENT	<u><u>\$ (9,505,336)</u></u>	LINE 10 - LINE 9

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
OPERATING ADJ #9 - INCENTIVE COMPENSATION

DOCKET NO. T-010513-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-13

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
1	T/Y INCENTIVE COMPENSATION ACCRUED	CONFIDENTIAL	DR RUCO # 6-1
2	LESS: PORTION CAPITALIZED		12% CAPITALIZATION RATE
3	T/Y INCENTIVE COMPENSATION EXPENSE	CONFIDENTIAL	LINE 1 - LINE 2

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
OPERATING INCOME ADJ # - INCOME TAX EXPENSE (000'S)

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-14

LINE NO.	DESCRIPTION	TOTAL AMOUNT	REFERENCE
	<u>FEDERAL INCOME TAXES:</u>		
1	OPERATING INCOME BEFORE INCOME TAXES	\$ 1,630	SCH. MDC-7
	LESS:		
2	ARIZONA STATE TAX	(5,984)	LINE 11
3	INTEREST EXPENSE	<u>87,512</u>	NOTE (a)
4	FEDERAL TAXABLE INCOME	(79,898)	LINE 1 - LINES 2 & 3
5	FEDERAL INCOME TAX RATE	<u>35.00%</u>	TAX RATE
6	FEDERAL INCOME TAX EXPENSE	(27,964)	LINE 4 X LINE 5
7	FEDERAL INCOME TAXES PER COMPANY	<u>(52,028)</u>	COMPANY SCH. C-1
8	FEDERAL INCOME TAX ADJUSTMENT	<u>\$ 24,064</u>	LINE 6 - LINE 7
	<u>STATE INCOME TAXES:</u>		
9	OPERATING INCOME BEFORE INCOME TAXES	1,630	LINE 1
	LESS:		
10	INTEREST EXPENSE	<u>87,512</u>	NOTE (a)
11	STATE TAXABLE INCOME	(85,883)	LINE 7 - LINE 8
12	STATE TAX RATE	<u>6.968%</u>	TAX RATE
13	STATE INCOME TAX EXPENSE	(5,984)	LINE 11 X LINE 12
14	STATE INCOME TAXES PER COMPANY	<u>(12,170)</u>	COMPANY SCH. C-1
15	STATE INCOME TAX ADJUSTMENT	<u>\$ 6,186</u>	LINE 13 - LINE 14

NOTE (a)

INTEREST SYNCHRONIZATION

ADJUSTED RATE BASE	\$ 1,489,135	SCHEDULE MDC-2
WEIGHTED COST OF DEBT	5.88%	SCHEDULE MDC-15
INTEREST EXPENSE	<u>\$ 87,512</u>	

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
COST OF CAPITAL (000's)

DOCKET NO. T-01051B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE MDC-15

LINE NO.	TYPE OF CAPITAL	(A) PER COMPANY	(B) RUCO ADJUSTMENT	(C) RUCO ADJUSTED	(D) PERCENT	(E) COST RATE	(F) WEIGHTED AVG. COST RATE
1	COMMON EQUITY	\$ 410,503	\$ 0	\$ 410,503	24.80%	11.50%	2.85%
2	LONG-TERM DEBT	1,098,801	-	1,098,801	66.50%	7.89%	5.25%
3	SHORT-TERM DEBT	144,202	-	144,202	8.70%	7.24%	0.63%
4	TOTAL CAPITAL	\$ 1,653,506	\$ 0	\$ 1,653,506	100.00%		8.73%

REFERENCES:

COLUMN (A): COMPANY SCHEDULE D-1  
COLUMN (B): TESTIMONY, WILLIAM A. RIGSBY  
COLUMN (C): COLUMN (A) + COLUMN (B)  
COLUMN (D): COLUMN (C) + COLUMN (C), LINE 4  
COLUMN (E): TESTIMONY, WILLIAM A. RIGSBY  
COLUMN (F): COLUMN (D) x COLUMN (E)



IN THE MATTER OF QWEST CORPORATION'S  
FILING OF RENEWED PRICE REGULATION PLAN.

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF THE  
COST OF TELECOMMUNICATIONS ACCESS.

DOCKET NO. T-00000D-00-0672

DIRECT TESTIMONY

OF

WILLIAM A. RIGSBY

On Behalf of  
The  
RESIDENTIAL UTILITY CONSUMER OFFICE

November 18, 2004

1	INTRODUCTION.....	1
2	SUMMARY OF TESTIMONY AND RECOMMENDATIONS.....	3
3	COST OF EQUITY CAPITAL .....	6
4	Discounted Cash Flow (DCF) Method.....	7
5	Capital Asset Pricing Model (CAPM) Method.....	24
6	Current Economic Environment.....	31
7	CAPITAL STRUCTURE.....	42
8	COMMENTS ON QWEST'S COST OF EQUITY CAPITAL TESTIMONY .....	45
9		

1 **INTRODUCTION**

2 Q. Please state your name, occupation, and business address.

3 A. My Name is William A. Rigsby. I am a Public Utilities Analyst V employed  
4 by the Residential Utility Consumer Office ("RUCO") located at 1110 W.  
5 Washington, Suite 220, Phoenix, Arizona 85007.

6  
7 Q. Please state your educational background and your qualifications in the  
8 field of utilities regulation.

9 A. Appendix I, which is attached to this testimony, describes my educational  
10 background and also includes a list of the rate cases and regulatory  
11 matters that I have been involved with.

12  
13 Q. What is the purpose of your testimony?

14 A. The purpose of my testimony is to present recommendations that are  
15 based on my analysis of Qwest Communications, Inc.'s ("Qwest" or  
16 "Company") application for a permanent rate increase for certain regulated  
17 services available to ratepayers under a revised price cap plan  
18 ("Application") for the Company's operations in Arizona.

19  
20 Q. Briefly describe Qwest's operations in Arizona.

21 A. As the largest incumbent local exchange carrier ("ILEC") in the state,  
22 Qwest provides a full range of telecommunications services at both the  
23 retail and wholesale levels. During the test year ended December 31,

1        2003 ("Test Year"), Qwest provided telecommunications services to the  
2        metropolitan areas of Phoenix and Tucson as well as Flagstaff, Yuma,  
3        Prescott, Payson, Sierra Vista and various other rural portions of the state.  
4        Qwest provides service to customers located in both of Arizona's Local  
5        Access and Transport Areas ("LATA").  
6

7        Q.     Please explain your role in RUCO's analysis of Qwest's Application.

8        A.     I reviewed Qwest's Application and performed a cost of capital analysis to  
9        determine a fair rate of return on Qwest's invested capital. In addition to  
10       my recommended capital structure, my direct testimony will present my  
11       recommended costs of common equity and my recommended cost of debt  
12       (long-term, short-term and lease obligations). The Company has no  
13       preferred stock. The recommendations contained in this testimony are  
14       based on information obtained from the Company's Application and on  
15       market-based research that I conducted during my cost of capital analysis.  
16

17       Q.     Were you also responsible for conducting an analysis of Qwest's  
18       proposed revenue level, rate base, and rate design?

19       A.     No, the revenue level and rate base portions of this case were handled by  
20       RUCO witness Marylee Diaz Cortez, CPA. RUCO consultant Ben  
21       Johnson, Ph.D. will address the universal service, industry competition  
22       and the price cap plan/rate design issues in the case.  
23

1 Q. What areas will you address in your testimony?

2 A. I will address the cost of capital issues associated with the case.

3

4 Q. Please identify the exhibits that you are sponsoring.

5 A. I am sponsoring Schedules WAR-1 through WAR-9.

6

7 **SUMMARY OF TESTIMONY AND RECOMMENDATIONS**

8 Q. Briefly summarize how your cost of capital testimony is organized.

9 A. My cost of capital testimony is organized into three sections. First, I will  
10 present the findings of my cost of equity capital analysis, in which I utilized  
11 both the discounted cash flow ("DCF") method, which I believe is the most  
12 reliable methodology, and the capital asset pricing model ("CAPM"), which  
13 I rely on as a check of my DCF results. These are the two most  
14 commonly used methods for calculating the cost of equity capital in rate  
15 case proceedings and are generally regarded as the most reliable<sup>1</sup>. In this  
16 first section I will also provide a brief overview of the current economic  
17 climate that Qwest is operating in. Second, I will compare my  
18 recommended capital structure with the Company proposed capital  
19 structure. Third, I will comment on Qwest's cost of capital testimony.  
20 Schedules WAR-1 through WAR-9 will provide support for my cost of  
21 capital analysis.

---

<sup>1</sup> A. Lawrence Kolbe and James A Read Jr., The Cost of Capital – Estimating the Rate of Return for Public Utilities, The MIT Press: Cambridge, Massachusetts, 1984, pp. 35-94.

1 Q. Please summarize the recommendations and adjustments that you will  
2 address in your testimony.

3 A. Based on the results of my analysis of Qwest, I am making the following  
4 recommendations:

5  
6 Cost of Equity Capital – I am recommending an 11.50 percent cost of  
7 equity capital. This 11.50 percent figure is based on an average of the  
8 results that I obtained in my cost of equity analysis, which employed both  
9 the DCF and CAPM methodologies.

10  
11 Cost of Debt – I am recommending that the Commission adopt Qwest's  
12 proposed 7.89 percent cost of long-term debt and 7.24 percent cost of  
13 short-term debt. This is based on my review of the costs associated with  
14 Qwest's various bond issues, notes and leasing obligations.

15  
16 Capital Structure – I am recommending that the Company-proposed  
17 capital structure, which is comprised of approximately 25 percent common  
18 equity and 75 percent debt, be adopted by the Commission.

19  
20 Cost of Capital – Based on the results of my recommended capital  
21 structure, cost of common equity, and debt analyses, I am recommending  
22 an 8.73 percent cost of capital for Qwest. This figure represents the

1 weighted cost of both the Company's common equity and debt/lease  
2 obligations.

3  
4 Q. Why do you believe that your recommended 8.73 percent cost of capital is  
5 an appropriate rate of return for Qwest to earn on its invested capital?

6 A. The 8.73 percent cost of capital figure that I have recommended meets  
7 the criteria established in the landmark Supreme Court cases of Bluefield  
8 Water Works & Improvement Co. v. Public Service Commission of West  
9 Virginia (262 U.S. 679, 1923) and Federal Power Commission v. Hope  
10 Natural Gas Company (320 U.S. 391, 1944). Simply stated, these two  
11 cases affirmed that a public utility that is efficiently and economically  
12 managed is entitled to a return on investment that instills confidence in its  
13 financial soundness, allows the utility to attract capital, and also allows the  
14 utility to perform its duty to provide service to ratepayers. The rate of  
15 return adopted for the utility should also be comparable to a return that  
16 investors would expect to receive from investments with similar risk.

17 The Hope decision allows for the rate of return to cover both the operating  
18 expenses and the "capital costs of the business" which includes interest  
19 on debt and dividend payment to shareholders. This is predicated on the  
20 belief that, in the long run, a company that cannot meet its debt obligations  
21 and provide its shareholders with an adequate rate of return will not  
22 continue to supply adequate public utility service to ratepayers.

1 Q. Do the Bluefield and Hope decisions indicate that a rate of return sufficient  
2 to cover all operating and capital costs is guaranteed?

3 A. No. Neither case guarantees a rate of return on utility investment. What  
4 the Bluefield and Hope decisions *do allow*, is for a utility to be provided  
5 with the *opportunity* to earn a reasonable rate of return on its investment.  
6 That is to say that a utility, such as Qwest, is provided with the opportunity  
7 to earn an appropriate rate of return if the Company's management  
8 exercises good judgment and manages its assets and resources in a  
9 manner that is both prudent and economically efficient.

10  
11 **COST OF EQUITY CAPITAL**

12 Q. What is your recommended cost of equity capital for Qwest?

13 A. Based on the results of my DCF and CAPM analyses, which ranged from  
14 10.20 percent to 12.80 percent, I am recommending an 11.50 percent cost  
15 of equity capital for Qwest. My recommended 11.50 percent figure is a  
16 mean average of the results of the 10.20 percent cost of equity derived  
17 from my DCF analysis, and the 12.80 percent expected return derived  
18 from my CAPM analysis (using an arithmetic mean).



1 **Discounted Cash Flow (DCF) Method**

2 Q. Please explain the DCF method that you used to estimate Qwest's cost of  
3 equity capital.

4 A. The DCF method employs a stock valuation model that is often referred to  
5 as either the constant growth valuation model or the Gordon<sup>2</sup> model.  
6 Simply stated, the DCF model is based on the premise that the current  
7 price of a given share of common stock is determined by the present value  
8 of all of the future cash flows that will be generated by that share of  
9 common stock. The rate that is used to discount these cash flows back to  
10 their present value is often referred to as the investor's cost of capital (i.e.  
11 the cost at which an investor is willing to forego other investments in favor  
12 of the one that he or she has chosen).

13 Another way of looking at the investor's cost of capital is to consider it from  
14 the standpoint of a company that is offering its shares of stock to the  
15 investing public. In order to raise capital, through the sale of common  
16 stock, a company must provide a required rate of return on its stock that  
17 will attract investors to commit funds to that particular investment. In this  
18 respect, the terms "cost of capital" and "investor's required return" are one  
19 in the same. For common stock, this required return is a function of the  
20 dividend that is paid on the stock. The investor's required rate of return  
21 can be expressed as the percentage of the dividend that is paid on the

---

<sup>2</sup> Named after Dr. Myron J. Gordon, the professor of finance who developed the model.

1 stock (dividend yield) plus an expected rate of future dividend growth.

2 This is illustrated in mathematical terms by the following formula:

3  
4 
$$k = (D_1 \div P_0) + g$$

5 where:  $k$  = the required return (cost of equity, equity  
6 capitalization rate),

7  $D_1 \div P_0$  = the dividend yield of a given share of stock  
8 calculated by dividing the expected dividend by  
9 the current market price of the given share of  
10 stock, and

11  $g$  = the expected rate of future dividend growth.

12  
13 This formula is the basis for the standard growth valuation model that I  
14 used to determine Qwest's cost of equity capital. It is similar to the model  
15 that was used by the Company.

16  
17 Q. In determining the rate of future dividend growth for Qwest, what  
18 assumptions did you make?

19 A. There are two primary assumptions regarding dividend growth that must  
20 be made when using the DCF method. First, dividends will grow by a  
21 constant rate into perpetuity, and second, the dividend payout ratio will  
22 remain at a constant rate. Both of these assumptions are predicated on  
23 the traditional DCF model's basic underlying assumption that a company's

earnings, dividends, book value and share growth all increase at the same constant rate of growth into infinity. Given these assumptions, if the dividend payout ratio remains constant, so does the earnings retention ratio (the percentage of earnings that are retained by the company as opposed to being paid out in dividends). This being the case, a company's dividend growth can be measured by multiplying its retention ratio (1 - dividend payout ratio) by its book return on equity. This can be stated as  $g = b \times r$ .

Q. Would you please provide an example that will illustrate the relationship that earnings, the dividend payout ratio and book value have with dividend growth?

A. RUCO consultant Stephen Hill illustrated this relationship in a Citizens Utilities Company 1993 rate case by using a hypothetical utility.<sup>3</sup>

Table I

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Growth</u>
Book Value	\$10.00	\$10.40	\$10.82	\$11.25	\$11.70	4.00%
Equity Return	10%	10%	10%	10%	10%	N/A
Earnings/Sh.	\$1.00	\$1.04	\$1.082	\$1.125	\$1.170	4.00%
Payout Ratio	0.60	0.60	0.60	0.60	0.60	N/A
Dividend/Sh	\$0.60	\$0.624	\$0.649	\$0.675	\$0.702	4.00%

<sup>3</sup> Citizens Utilities Company, Arizona Gas Division, Docket No. E-1032-93-111, Prepared Testimony, dated December 10, 1993, p. 25.

1 Table I of Mr. Hill's illustration presents data for a five-year period on his  
2 hypothetical utility. In Year 1, the utility had a common equity or book  
3 value of \$10.00 per share, an investor-expected equity return of ten  
4 percent, and a dividend payout ratio of sixty percent. This results in  
5 earnings per share of \$1.00 (\$10.00 book value x 10 percent equity return)  
6 and a dividend of \$0.60 (\$1.00 earnings/sh. x 0.60 payout ratio) during  
7 Year 1. Because forty percent (1 - 0.60 payout ratio) of the utility's  
8 earnings are retained as opposed to being paid out to investors, book  
9 value increases to \$10.40 in Year 2 of Mr. Hill's illustration. Table I  
10 presents the results of this continuing scenario over the remaining five-  
11 year period.

12 The results displayed in Table I demonstrate that under "steady-state" (i.e.  
13 constant) conditions, book value, earnings and dividends all grow at the  
14 same constant rate. The table further illustrates that the dividend growth  
15 rate, as discussed earlier, is a function of (1) the internally generated  
16 funds or earnings that are retained by a company to become new equity,  
17 and (2) the return that an investor earns on that new equity. The DCF  
18 dividend growth rate, expressed as  $g = b \times r$ , is also referred to as the  
19 internal or sustainable growth rate.

Q. If earnings and dividends both grow at the same rate as book value, shouldn't that rate be the sole factor in determining the DCF growth rate?

A. No. Possible changes in the expected rate of return on either common equity or the dividend payout ratio make earnings and dividend growth by themselves unreliable. This can be seen in the continuation of Mr. Hill's illustration on a hypothetical utility.

Table II

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Growth</u>
Book Value	\$10.00	\$10.40	\$10.82	\$11.47	\$12.158	5.00%
Equity Return	10%	10%	15%	15%	15%	10.67%
Earnings/Sh	\$1.00	\$1.04	\$1.623	\$1.720	\$1.824	16.20%
Payout Ratio	0.60	0.60	0.60	0.60	0.60	N/A
Dividend/Sh	\$0.60	\$0.624	\$0.974	\$1.032	\$1.094	16.20%

In the example displayed in Table II, a sustainable growth rate of four percent<sup>4</sup> exists in Year 1 and Year 2 (as in the prior example). In Year 3, Year 4 and Year 5, however, the sustainable growth rate increases to six percent.<sup>5</sup> If the hypothetical utility in Mr. Hill's illustration were expected to earn a fifteen-percent return on common equity on a continuing basis, then a six percent long-term rate of growth would be reasonable. However, the compound growth rates for earnings and dividends,

<sup>4</sup>  $[(\text{Year 2 Earnings/Sh} - \text{Year 1 Earnings/Sh}) \div \text{Year 1 Earnings/Sh}] = [(\$1.04 - \$1.00) \div \$1.00] = [\$0.04 \div \$1.00] = \underline{4.00\%}$

<sup>5</sup>  $[(1 - \text{Payout Ratio}) \times \text{Rate of Return}] = [(1 - 0.60) \times 15.00\%] = 0.40 \times 15.00\% = \underline{6.00\%}$

1 displayed in the last column, are 16.20 percent. If this rate were to be  
2 used in the DCF model, the utility's return on common equity would be  
3 expected to increase by fifty percent every five years,  $[(15 \text{ percent} \div 10$   
4  $\text{percent}) - 1]$ . This is clearly an unrealistic expectation.

5 Although it is not illustrated in Mr. Hill's hypothetical example, a change in  
6 only the dividend payout ratio will eventually result in a utility paying out  
7 more in dividends than it earns. While it is not uncommon for a utility in  
8 the real world to have a dividend payout ratio that exceeds one hundred  
9 percent on occasion, it would be unrealistic to expect the practice to  
10 continue over a sustained long-term period of time.

11  
12 Q. Other than the retention of internally generated funds, as illustrated in Mr.  
13 Hill's hypothetical example, are there any other sources of new equity  
14 capital that can influence an investor's growth expectations for a given  
15 company?

16 A. Yes, a company can raise new equity capital externally. The best  
17 example of external funding would be the sale of new shares of common  
18 stock. This would create additional equity for the issuer and is often the  
19 case with utilities that are either in the process of acquiring smaller  
20 systems or providing service to rapidly growing areas.

1 Q. How does external equity financing influence the growth expectations held  
2 by investors?

3 A. Rational investors will put their available funds into investments that will  
4 either meet or exceed their given cost of capital (i.e. the return earned on  
5 their investment). In the case of a utility, the book value of a company's  
6 stock usually mirrors the equity portion of its rate base (the utility's earning  
7 base). Because regulators allow utilities the opportunity to earn a  
8 reasonable rate of return on rate base, an investor would take into  
9 consideration the effect that a change in book value would have on the  
10 rate of return that he or she would expect the utility to earn. If an investor  
11 believes that a utility's book value (i.e. the utility's earning base) will  
12 increase, then he or she would expect the return on the utility's common  
13 stock to increase. If this positive trend in book value continues over an  
14 extended period of time, an investor would have a reasonable expectation  
15 for sustained long-term growth.

16  
17 Q. Please provide an example of how external financing affects a utility's  
18 book value of equity.

19 A. As I explained earlier, one way that a utility can increase its equity is by  
20 selling new shares of common stock on the open market. If these new  
21 shares are purchased at prices that are higher than those shares sold  
22 previously, the utility's book value per share will increase in value. This  
23 would increase both the earnings base of the utility and the earnings

1 expectations of investors. However, if new shares sold at a price below  
2 the pre-sale book value per share, the after-sale book value per share  
3 declines in value. If this downward trend continues over time, investors  
4 might view this as a decline in the utility's sustainable growth rate and will  
5 have lower expectations regarding growth. Using this same logic, if a new  
6 stock issue sells at a price per share that is the same as the pre-sale book  
7 value per share, there would be no impact on either the utility's earnings  
8 base or investor expectations.

9  
10 Q. Please explain how the external component of the DCF growth rate is  
11 determined.

12 A. In his book, *The Cost of Capital to a Public Utility*,<sup>6</sup> Dr. Myron Gordon, the  
13 individual responsible for the development of the DCF or constant growth  
14 model, identified a growth rate that includes both expected internal and  
15 external financing components. The mathematical expression for Dr.  
16 Gordon's growth rate is as follows:

$$g = (br) + (sv)$$

17  
18  
19 where:      g      =      DCF expected growth rate,  
20                      b      =      the earnings retention ratio,  
21                      r      =      the return on common equity,

---

<sup>6</sup> Gordon, M.J., *The Cost of Capital to a Public Utility*, East Lansing, MI: Michigan State University, 1974, pp. 30-33.



1                s       =     the fraction of new common stock sold that  
2                                  accrues to a current shareholder, and  
3                v       =     funds raised from the sale of stock as a fraction  
4                                  of existing equity.

$$5 \quad \text{and} \quad v = 1 - [(BV) \div (MP)]$$

6 where: BV = book value per share of common stock, and

7  $MP$  = the market price per share of common stock.

9 Q. Did you include the effect of external equity financing on long-term growth  
10 rate expectations in your analysis of expected dividend growth for the DCF  
11 model?

12 A. Yes. The external growth rate estimate (sv) is displayed on Page 1 of  
13 Schedule WAR-5, where it is added to the internal growth rate estimate  
14 (br) to arrive at a final sustainable growth rate estimate.

16 Q. Please explain why your calculation of external growth on page-2 of  
17 Schedule WAR-5, is the current market-to-book ratio averaged with 1.0 in  
18 the equation  $[(M \div B) + 1] \div 2$ .

A. The market price of a utility's common stock will tend to move toward book value, or a market-to-book ratio of 1.0, if regulators allow a rate of return that is equal to the cost of capital (one of the desired effects of regulation). As a result of this situation, I used  $[(M \div B) + 1] \div 2$  as opposed to the

1 current market-to-book ratio by itself to represent investor's expectations  
2 that, in the future, a given utility will achieve a market-to-book ratio of 1.0.

3  
4 Q. In determining your dividend growth rate estimate, you analyzed the data  
5 on four telecommunications companies. Why did you use this  
6 methodology as opposed to a direct analysis of Qwest?

7 A. One of the problems in performing this type of analysis is that the utility  
8 applying for a rate increase is not always a publicly traded company.  
9 Although Qwest Communications International, Inc. is publicly traded on  
10 the New York Stock Exchange ("NYSE"), Qwest's Arizona operations are  
11 not. Because of this situation, I created a proxy which includes four  
12 publicly traded telecommunications companies that have similar risk  
13 characteristics to Qwest's Arizona subsidiary in order to derive a cost of  
14 common equity for the Company.

15  
16 Q. Are there any other advantages to the use of a proxy?

17 A. Yes. As I noted earlier, the U.S. Supreme Court ruled in the Hope  
18 decision that a utility is entitled to earn a rate of return that is  
19 commensurate with the returns on investments of other firms with  
20 comparable risk. The proxy technique that I have used derives that rate of  
21 return. One other advantage to using a sample of companies is that it  
22 reduces the possible impact that any undetected biases, anomalies, or  
23 measurement errors may have on the DCF growth estimate.

1 Q. What criteria did you use in selecting the four telecommunications  
2 companies that make up your proxy for Qwest?

3 A. Each of the telecommunications companies used in the proxy are followed  
4 by The Value Line Investment Survey ("Value Line") and comprise Value  
5 Line's Telecommunications Utility Industry segment of the U.S. economy.  
6 All of the companies in the proxy are engaged in the provision of regulated  
7 wireline services as opposed to companies that provide solely competitive  
8 wireless or interstate long distance services. Two of the companies in my  
9 proxy have a presence in Arizona.

10  
11 Q. Please describe the four telecommunications companies that you included  
12 in your proxy.

13 A. The four telecommunications companies that I included in my proxy are  
14 BellSouth Corp. ("BellSouth"), CenturyTel, Inc. ("CenturyTel"), SBC  
15 Communications, Inc. ("SBC") and Verizon Communications ("Verizon").  
16 BellSouth and SBC are two of the original regional telephone holding  
17 companies, or, as I prefer to refer to them as, regional Bell operating  
18 companies ("RBOC") that resulted from the breakup of American  
19 Telephone & Telegraph's<sup>7</sup> ("AT&T") Bell System in 1984. Atlanta-based  
20 BellSouth provides regulated wireline services to customers in the

---

<sup>7</sup> The original seven RBOC's included Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Bell, Southwestern Bell and US West. Southwestern Bell subsequently acquired both Pacific Bell and Ameritech and changed its name to SBC Communications, Inc. Bell Atlantic acquired NYNEX in 1996 and later merged with GTE to form Verizon in 2000. US West merged with Qwest Communications International, Inc. in 2000. BellSouth is the only RBOC that exists today as it was originally conceived following the AT&T divestiture.

1       southeastern U.S. and served 13.3 million residential access lines during  
2       the 2003 operating period. In addition to its home state of Texas, SBC  
3       provides telecommunications services throughout the Midwestern U.S.  
4       and California serving approximately 53.6 million access lines as of June  
5       2004. In addition to their wireline operations, which provide a large portion  
6       of their operating revenues<sup>8</sup>, BellSouth and SBC are engaged in a joint  
7       venture to operate Cingular Wireless<sup>9</sup> ("Cingular"), which recently  
8       completed a merger with AT&T Wireless Services Inc. to create the  
9       nation's largest wireless carrier.

10      Both CenturyTel and Verizon have a presence in Arizona. Louisiana-  
11      based CenturyTel, which operates in twenty-two states including Arizona,  
12      provides wireline service to rural customers living northeast of Flagstaff in  
13      portions of Coconino and Navajo counties. CenturyTel is the eighth  
14      largest local-telecom service provider in the U.S. with approximately 2.4  
15      million access lines and 3 million customers located in twenty-two states.  
16      Verizon is the dominant ILEC in the northeastern U.S. with more than  
17      140.3 million access lines. In addition to its wireless operations here in  
18      Arizona, Verizon also has a California subsidiary that provides wireline  
19      service to rural customers in and around Parker, along the Colorado River  
20      area of La Paz County.

---

<sup>8</sup> Operating revenue from wireline services comprise approximately 45.0% of BellSouth and Verizon's revenue mix.

<sup>9</sup> Verizon holds a 60.0% share in Cingular Wireless with the remaining 40.0% owned by BellSouth.

1 Q. Are these the same telecommunications companies that the Company  
2 cost of capital witness used in Qwest's application?

3 A. Yes, the Company's cost of capital witness, Mr. Peter C. Cummings,  
4 included all four of these companies in the telecommunications portion of  
5 both his DCF and CAPM analyses. In addition to these companies, Mr.  
6 Cummings also included ALLTEL Corp. ("ALLTEL") and Citizens  
7 Communications Company ("Citizens") in his telecom proxies.

8  
9 Q. Why did you exclude ALLTEL and Citizens from your proxy?

10 A. Even though both of these telecom providers have a presence in Arizona,  
11 I decided not to include them in my proxy for various reasons. Although  
12 ALLTEL does provide rural wireline service to some parts of the country, it  
13 is predominately an unregulated wireless provider that derives about thirty  
14 percent of its revenues from wireline services. Based on information  
15 contained in its most recent 10-K filing to the Securities and Exchange  
16 Commission ("SEC") and the ACC's website, the Company does not  
17 provide wireline service in Arizona as either an ILEC or a competitive local  
18 exchange carrier ("CLEC"). For these reasons I believe that ALLTEL has  
19 less in common with Qwest than the four companies that I chose for my  
20 proxy. Although Citizens does provide local wireline service in both  
21 Mohave County and the White Mountain region of Arizona (and would  
22 appear to be a good company for my proxy at first glance) the level of  
23 financial information available on Citizens in Value Line is not as complete

1 as the information that was available on the four companies that I included  
2 in my proxy. The lack of Value Line data on past and estimated dividends  
3 on Citizens would have resulted in a lower DCF estimate and for this  
4 reason I decided not to include Citizens in my analysis. Mr. Cummings  
5 appears to have recognized this fact also, and only included Citizens data  
6 in his CAPM analysis.

7  
8 Q. Please explain your DCF growth rate calculations for the sample  
9 companies used in your proxy.

10 A. Schedule WAR-5 provides retention ratios, returns on book equity, internal  
11 growth rates, book values per share, numbers of shares outstanding, and  
12 the compounded share growth for each of the utilities included in the  
13 sample for the period 1999 to 2003. Schedule WAR-5 also includes Value  
14 Line's projected 2004, 2005, and 2007-2009 values for the retention ratio,  
15 equity return, book value per share growth rate, and number of shares  
16 outstanding.

17  
18 Q. Please describe how you used the information displayed in Schedule  
19 WAR-5 to estimate each comparable utility's dividend growth rate.

20 A. In explaining my analysis, I will use BellSouth, NYSE symbol BLS, as an  
21 example. The first dividend growth component that I evaluated was the  
22 internal growth rate. I used the "b x r" formula (page 10) to multiply BLS'  
23 earned return on common equity by its earnings retention ratio for each

1 year 1999 through 2003 to derive the utility's annual internal growth rates.  
2 I used the mean average of this five-year period as a benchmark against  
3 which I compared the 2004 internal growth rate and projected growth rate  
4 trends provided by Value Line. Because an investor is more likely to be  
5 influenced by recent growth trends, as opposed to historical averages, the  
6 five-year mean noted earlier was used only as a benchmark figure. As  
7 shown on Schedule WAR-5, BLS' average internal growth rate of 11.94%  
8 over the 1999–2003 time frame reflects an upward trend from 15.77% to  
9 15.89% that occurred during the 1999 to 2000 observation period. This  
10 was followed by two years of decline, from 13.59% in 2001 to 3.61% in  
11 2002. BLS' internal growth rate then rebounded upward to 10.83% in  
12 2003. Value Line is forecasting a lower growth rate in dividends with  
13 declines of 7.07% in 2004, and 6.45% in 2005 followed by an increase to  
14 7.55% during the 2007-2009 time frame. However, after weighing Value  
15 Line's 6.00% earnings and 8.50% dividend projections, I believe that an  
16 8.00% rate of growth would appear to be more realistic.

17  
18 Q. Please continue with the external growth rate component portion of your  
19 analysis.

20 A. Schedule WAR-5 demonstrates that despite an increase in BLS'  
21 sustainable internal growth rate in 2003, the pattern of share's outstanding  
22 declined from 1,883 million in 1999 to 1,830 million in 2002. Value Line is  
23 predicting that this level will remain stable in 2004 and increase to 1,850

1 during the 2007-2009 time frame. After studying these projections, I  
2 believe that a 0.29% growth in shares is not unreasonable for BLS.  
3 My final dividend growth rate estimate for BLS is 8.29 percent (8.00  
4 percent internal + 0.29 percent external) and is shown on Page 1 of  
5 Schedule WAR-4.

6  
7 Q. What is your average dividend growth rate estimate using the DCF model  
8 for the sample telecommunications utilities?

9 A. Based on the DCF model, my average dividend growth rate estimate is  
10 6.89 percent as displayed on Page 1 of Schedule WAR-4.

11  
12 Q. How does your average dividend growth rate compare to the growth rate  
13 data of other publicly traded firms?

14 A. Overall my estimate is more optimistic than the projections of analysts at  
15 both Zacks Investment Research, Inc. ("Zacks") and Value Line.  
16 Schedule WAR-6 compares my sustainable growth estimates with the  
17 five-year projections of both Zacks and Value Line. The 6.89 percent  
18 estimate that I have calculated is 205 basis points higher than the  
19 projected 5-year EPS average of 4.84 percent for Zacks and 126 basis  
20 points higher than the 5.63 percent for Value Line (which is an average of  
21 EPS, DPS and BVPS). My 6.89 percent estimate is 215 basis points  
22 higher than the five-year compound historical average also displayed in  
23 Schedule WAR-6. This indicates that investors are expecting increased



1 performance from telecommunications utilities in the future. On balance, I  
2 would say my 6.89 percent estimate is a good representation of the  
3 growth projections that are available to the investing public.  
4

5 Q. How did you calculate the dividend yields displayed in Schedule WAR-3?

6 A. I used the estimated annual dividends, for the next twelve-month period,  
7 that appeared in the October 1, 2004 Ratings and Reports  
8 telecommunications services industry update of The Value Line  
9 Investment Survey. I then divided that figure by the eight-week average  
10 price per share of the appropriate utility's common stock. The eight-week  
11 average price is based on the daily closing stock prices for each of the  
12 four companies in my proxy for the period September 3, 2004 to October  
13 29, 2004.  
14

15 Q. Based on the results of your DCF analysis, what is your cost of equity  
16 capital estimate for the telecommunications utilities included in your  
17 sample?

18 A. As shown in Schedule WAR-2, the cost of equity capital derived from my  
19 analysis is 10.20 percent.  
20  
21  
22  
23

**Capital Asset Pricing Model (CAPM) Method**

Q. Please explain the theory behind the capital asset pricing model ("CAPM") and why you decided to use it as an equity capital valuation method in this proceeding.

A. CAPM is a mathematical tool that was developed during the early 1960's by William F. Sharpe, Ph.D.<sup>10</sup> The CAPM model is used to analyze the relationships between rates of return on various assets and risk as measured by beta.<sup>11</sup> In this regard, CAPM can help an investor to determine how much risk is associated with a given investment so that he or she can decide if that investment meets their individual preferences. Finance theory has always held that as the risk associated with a given investment increases, so should the expected rate of return on that investment and vice versa. According to CAPM theory, risk can be classified into two specific forms: nonsystematic or diversifiable risk, and systematic or non-diversifiable risk. While nonsystematic risk can be virtually eliminated through diversification (i.e. by including stocks of various companies in various industries in a portfolio of securities), systematic risk, on the other hand, cannot be eliminated by diversification.

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<sup>10</sup> William F. Sharpe, "A Simplified Model of Portfolio Analysis," Management Science, Vol. 9, No. 2 (January 1963), pp. 277-93.

<sup>11</sup> Beta is defined as an index of volatility, or risk, in the return of an asset relative to the return of a market portfolio of assets. It is a measure of systematic or non-diversifiable risk. The returns on a stock with a beta of 1.0 will mirror the returns of the overall stock market. The returns on stocks with betas greater than 1.0 are more volatile or riskier than those of the overall stock market; and if a stock's beta is less than 1.0, its returns are less volatile or riskier than the overall stock market.

1 Thus, systematic risk is the only risk of importance to investors. Simply  
2 stated, the underlying theory behind CAPM states that the expected return  
3 on a given investment is the sum of a risk-free rate of return plus a market  
4 risk premium that is proportional to the systematic (non-diversifiable risk)  
5 associated with that investment. In mathematical terms, the formula is as  
6 follows:

$$k = r_f + [\beta (r_m - r_f)]$$

7  
8  
9 where:  $k$  = cost of capital of a given security,  
10  $r_f$  = risk-free rate of return,  
11  $\beta$  = beta coefficient, a statistical measurement of a  
12 security's systematic risk,  
13  $r_m$  = average market return (e.g. S&P 500), and  
14  $r_m - r_f$  = market risk premium.  
15

16 Q. What security did you use for a risk-free rate of return in your CAPM  
17 analysis?

18 A. I used a six-week average on a 91-day Treasury Bill ("T-Bill") rate.<sup>12</sup> This  
19 resulted in a risk-free ( $r_f$ ) rate of return of 1.66 percent.  
20

---

<sup>12</sup> A six week average was computed for the current rate using 91-day T-Bill quotes listed in Value Line's Selection and Opinion newsletter from September 24, 2004 to October 29, 2004.

1 Q. Why did you use the short-term T-Bill rate as opposed to the yield on an  
2 intermediate 5-year Treasury note or a long-term 30-year Treasury bond?

3 A. Because a 91-day T-Bill presents the lowest possible total risk to an  
4 investor. As citizens and investors, we would like to believe that U.S.  
5 Treasury securities (which are backed by the full faith and credit of the  
6 United States Government) pose no threat of default no matter what their  
7 maturity dates are. However, a comparison of various Treasury  
8 instruments will reveal that those with longer maturity dates do have  
9 slightly higher yields. Treasury yields are comprised of two separate  
10 components,<sup>13</sup> a true rate of interest (believed to be approximately 2.00  
11 percent) and an inflationary expectation. When the true rate of interest is  
12 subtracted from the total treasury yield, all that remains is the inflationary  
13 expectation. Because increased inflation represents a potential capital  
14 loss, or risk, to investors, a higher inflationary expectation by itself  
15 represents a degree of risk to an investor. Another way of looking at this  
16 is from an opportunity cost standpoint. When an investor locks up funds in  
17 long-term T-Bonds, compensation must be provided for future investment  
18 opportunities foregone. This is often described as maturity or interest rate  
19 risk and it can affect an investor adversely if market rates increase before  
20 the instrument matures (a rise in interest rates would decrease the value

---

<sup>13</sup> As a general rule of thumb, there are three components that make up a given interest rate or rate of return on a security: the true rate of interest, an inflationary expectation, and a risk premium. The approximate risk premium of a given security can be determined by simply subtracting a 91-day T-Bill rate from the yield on the security.

1 of the debt instrument). As discussed earlier in the DCF portion of my  
2 testimony, this compensation translates into higher rates of returns to the  
3 investor. Since a 91-day T-Bill presents the lowest possible total risk to an  
4 investor, it more closely meets the definition of a risk-free rate of return  
5 and is the more appropriate instrument to use in a CAPM analysis.

6  
7 Q. How did you calculate the market risk premium used in your CAPM  
8 analysis?

9 A. I used both a geometric and an arithmetic mean of the historical returns on  
10 the S&P 500 index from 1926 to 2003 as the proxy for the market rate of  
11 return ( $r_m$ ). The risk premium ( $r_m - r_f$ ) that results by using the geometric  
12 mean calculation for  $r_m$  is equal to 8.68 percent ( $10.40\% - 1.72\% =$   
13 8.68%). The risk premium that results by using the arithmetic mean  
14 calculation for  $r_m$  is 10.68 percent ( $12.40\% - 1.72\% =$  10.68%).

15  
16 Q. How did you select the beta coefficients that were used in your CAPM  
17 analysis?

18 A. The beta coefficients ( $\beta$ ), for the individual utilities used in my sample,  
19 were calculated by Value Line and were current as of October 1, 2004.  
20 Value Line calculates its betas by using a regression analysis between  
21 weekly percentage changes in the market price of the security being  
22 analyzed and weekly percentage changes in the NYSE Composite Index  
23 over a five-year period. The betas are then adjusted by Value Line for

1        their long-term tendency to converge toward 1.00. The beta coefficients  
2        for the telecommunications utilities included in my sample ranged from  
3        1.00 to 1.10 with an average beta of 1.04.

4  
5    Q.    What are the results of your CAPM analysis?

6    A.    As shown on Pages 1 and 2 of Schedule WAR-7, my CAPM calculation  
7        using a geometric mean for  $r_m$  results in an average expected return of  
8        10.73 percent. My calculation using the arithmetic mean results in an  
9        average expected return of 12.80 percent. Although there is some debate  
10       on this point, I believe that the consensus among financial analysts  
11       appears to be that the arithmetic mean is the better of the two averages.  
12       For this reason, I believe that the 12.80 percent figure is the better check  
13       on the result of my DCF analysis.

14  
15   Q.    Please summarize the results derived under each of the methodologies  
16        presented in your testimony.

17   A.    The following is a summary of the cost of equity capital derived under  
18        each methodology used:

19

<u>METHOD</u>	<u>RESULTS</u>
DCF	10.20%
CAPM	10.73% – 12.80%

20  
21  
22  
23

1 Based on these results, my best estimate of an appropriate range for the  
2 cost of equity is from 10.20 percent to 12.80 percent. My final  
3 recommendation is an 11.50 percent return for Qwest's cost of equity  
4 capital.

5  
6 Q How did you arrive at your recommended 11.50 percent cost of common  
7 equity?

8 A. My recommended 11.50 percent cost of common equity was arrived at by  
9 taking a mean average of the results of my 10.20 percent DCF figure and  
10 the higher 12.80 percent result of my CAPM analysis which was  
11 calculated with an arithmetic mean.<sup>14</sup> This results in a 130 basis point  
12 upward adjustment to the 10.20 percent result derived from my DCF  
13 analysis.

14  
15 Q. Is this the method that you have typically used to determine the cost of  
16 equity capital in prior rate case proceedings?

17 A. No. Typically, my recommended cost of equity is derived solely from my  
18 DCF analysis.

19  
20 Q. Why have you departed from your typical practice in this proceeding?

21 A. My decision to average the results of my DCF analysis and my CAPM  
22 analysis (calculated with an arithmetic mean) was based on the fact that

---

<sup>14</sup>  $[(9.04\% + 8.62\%) \div 2] = (17.66\%) \div 2 = \underline{8.83\%}$

1 my recommended capital structure for Qwest is comprised of 25 percent  
2 common equity capital and 75 percent debt. This capital structure has  
3 much more debt than the capital structures of the four companies that I  
4 included in my DCF and CAPM proxies. Because Qwest is more heavily  
5 leveraged and faces a higher level of financial risk (i.e. the risk of not  
6 being able to meet debt service obligations) than the companies in my  
7 proxy, I believe that a return on common equity that is higher than my  
8 DCF result is warranted in this case.

9  
10 Q. Have you made adjustments to your DCF results in prior cases?

11 A. Yes. I adjusted my DCF results in the last two rate cases that I testified in.  
12 In the first of those two cases, I increased my DCF result by 50 basis  
13 points to recognize the additional financial risk faced by Arizona-American  
14 Water Company, Inc. ("Arizona-American"). My 50 basis point adjustment  
15 in that case took into consideration Arizona-American's leveraged capital  
16 structure (which was comprised of 60.00 percent debt and 40.00 percent  
17 equity). The second case involved Rio Rico, Utilities, Inc. ("Rio Rico"), a  
18 water and wastewater provider with a capital structure comprised of 100  
19 percent common equity. In Rio Rico's case, I averaged the results of my  
20 DCF and CAPM analyses (just as I have for Qwest) to arrive at a cost of  
21 equity of 8.83 percent. This adjustment resulted in a 42 basis point  
22 downward adjustment to my 9.04 percent DCF estimate. In the Rio Rico  
23 proceeding, the Commission eventually adopted a cost of common equity



1       that was slightly lower than the 8.83 percent that I recommended.  
2       Although my upward adjustment for Qwest in this case is somewhat larger  
3       than the two previous cases, I believe that the higher figure is reasonable  
4       given the fact that Qwest is more heavily leveraged (a point that I will  
5       discuss later in my direct testimony) and operates in a somewhat more  
6       competitive environment than the aforementioned water utilities (a point  
7       that is supported by Value Line assessment of the telecommunications  
8       services industry and the direct testimony of RUCO witness Ben  
9       Johnson).

10  
11   **Current Economic Environment**

12   Q.   Please explain why it is necessary to consider the current economic  
13       environment when performing a cost of equity capital analysis for a  
14       regulated utility.

15   A.   Consideration of the economic environment is necessary because trends  
16       in interest rates, present and projected levels of inflation, and the overall  
17       state of the U.S. economy determine the rates of return that investors earn  
18       on their invested funds. Each of these factors represent potential risks  
19       that must be weighed when estimating the cost of equity capital for a  
20       regulated utility and are, most often, the same factors considered by  
21       individuals who are investing in non-regulated entities also.

1 Q. Please discuss your analysis of the current economic environment.

2 A. My analysis includes a review of the economic events that have occurred  
3 since 1990. Schedule WAR-9 displays various economic indicators and  
4 other data that I will refer to during this portion of my testimony.

5 In 1991, as measured by the most recently revised annual change in  
6 gross domestic product ("GDP"), the U.S. Economy experienced a rate of  
7 growth of negative 0.20 percent. This decline in GDP marked the  
8 beginning of a mild recession that ended sometime before the end of the  
9 first half of 1992. Reacting to this situation the Federal Reserve Board  
10 ("Federal Reserve" or "Fed"), chaired by noted economist Alan  
11 Greenspan, lowered its benchmark federal funds rate<sup>15</sup> in an effort to  
12 further loosen monetary constraints - an action that resulted in lower  
13 interest rates.

14 During this same period, the nation's major money center banks followed  
15 the Federal Reserve's lead and began lowering their interest rates as well.  
16 By the end of the fourth quarter of 1993, the prime rate (the rate charged  
17 by banks to their best customers) had dropped to 6.00 percent from a  
18 1990 level of 10.01 percent. In addition, the Federal Reserve's discount  
19 rate on loans to its member banks had fallen to 3.00 percent and short-

---

<sup>15</sup> The interest rate charged by banks with excess reserves at a Federal Reserve district bank to banks needing overnight loans to meet reserve requirements. The federal funds rate is the most sensitive indicator of the direction of interest rates, since it is set daily by the market, unlike the prime rate and the discount rate, which are periodically changed by banks and by the Federal Reserve Board, respectively.

1 term interest rates had declined to levels that had not been seen since  
2 1972.

3 Although GDP increased in 1992 and 1993, the Federal Reserve took  
4 steps to increase interest rates beginning in February of 1994, in order to  
5 keep inflation under control. By the end of 1995, the Federal discount rate  
6 had risen to 5.21 percent. Once again, the banking community followed  
7 the Federal Reserve's moves. The Fed's strategy, during this period, was  
8 to engineer a "soft landing." That is to say that the Federal Reserve  
9 wanted to foster a situation in which economic growth would be stabilized  
10 without incurring either a prolonged recession or runaway inflation.

11  
12 Q. Did the Federal Reserve achieve its goals during this period?

13 A. The Fed's strategy of decreasing interest rates to stimulate the economy  
14 worked. The annual change in GDP began an upward trend in 1991. A  
15 change of 4.50 percent and 4.20 percent were recorded at the end of  
16 1997 and 1998 respectively. Based on daily reports that were presented  
17 in the mainstream print and broadcast media during most of 1999, there  
18 appeared to be little doubt among both economists and the public at large  
19 that the U.S. was experiencing a period of robust economic growth  
20 highlighted by low rates of unemployment and inflation. Investors, who  
21 believed that technology stocks and Internet company start-ups (with little  
22 or no history of earnings) had high growth potential, purchased these  
23 types of issues with enthusiasm. These types of investors, who exhibited

1           what Chairman Greenspan described as "irrational exuberance," pushed  
2           stock prices and market indexes to all time highs from 1997 to 2000.

3  
4   Q.    What has been the state of the economy over the last four years?

5   A.    The U.S. economy entered into a recession around the end of the first  
6           quarter of 2001. The bullish trend, which had characterized the last half of  
7           the 1990's, had already run its course sometime during the third quarter of  
8           2000. Economic data released since the beginning of 2001 had already  
9           been disappointing during the months preceding the September 11, 2001  
10          terrorist attacks on the World Trade Center and the Pentagon. Slower  
11          growth figures, rising layoffs in the high technology manufacturing sector,  
12          and falling equity prices (due to lower earnings expectations) prompted  
13          the Fed to begin cutting interest rates as it had done in the early 1990's.  
14          The now infamous terrorist attacks on New York City and Washington  
15          D.C. marked a defining point in this economic slump and prompted the  
16          Federal Reserve to continue its rate cutting actions through December  
17          2001. Prior to the 9/11 attacks, commentators, reporting in both the  
18          mainstream financial press and various economic publications including  
19          Value Line, believed that the Fed Chairman was cutting rates in the hope  
20          of avoiding the recession that the U.S. is still in the process of recovering  
21          from.

22          Despite several intervals during 2002 and 2003 in which the Federal Open  
23          Market Committee ("FOMC") decided not to change interest rates, moves

1 which indicated that the worst may be over and that the current recession  
2 might have bottomed out during the last quarter of 2001, a lackluster  
3 economy persisted. The continuing economic malaise and even fears of  
4 possible deflation prompted the FOMC to make a thirteenth rate cut on  
5 June 25, 2003. The quarter point cut reduced the federal funds rate to  
6 1.00 percent, the lowest level in 45 years.

7 Even though some signs of economic strength, that were mainly attributed  
8 to consumer spending, began to crop up during the latter part of 2002 and  
9 into 2003, Chairman Greenspan appeared to be concerned with sharp  
10 declines in capital spending in the business sector.

11 During the latter part of 2003, the FOMC went on record as saying that it  
12 intended to leave interest rates low "for a considerable period." After its  
13 two-day meeting that ended on January 28, 2004, the FOMC stated "that  
14 with inflation 'quite low' and plenty of excess capacity in the economy,  
15 policy-makers 'can be patient in removing its policy accommodation.'"16

16  
17 Q. What actions has the Federal Reserve taken in terms of interest rates  
18 since the beginning of 2001?

19 A. As noted earlier, from January 2001 to June 2003 the Federal Reserve cut  
20 interest rates a total of thirteen times. During this period, the federal funds  
21 rate fell from 6.50 percent to 1.00 percent. The FOMC reversed this trend  
22 on June 29, 2004 and raised the federal funds rate 25 basis points to 1.25

---

<sup>16</sup> Volk, Martin, "Fed leaves short-term rates unchanged," MSNBC, January 28, 2004.

1 percent. Since June, 2004, the FOMC has raised the federal funds rate  
2 three more times: from 1.25 percent to 1.50 percent on August 10, 2004,  
3 from 1.50 percent to 1.75 percent on September 21, 2004, and from 1.75  
4 percent to the current 2.00 percent level on November 10, 2004. As  
5 expected, banks have followed the Fed's lead and have boosted the prime  
6 rate to its current level of 5.00 percent<sup>17</sup>. According to an article that  
7 appeared in the September 22, 2004 edition of the The Wall Street  
8 Journal The FOMC's decision to begin raising rates was viewed as a  
9 move to increase rates from emergency lows in order to avoid creating an  
10 inflation problem in the future as opposed to slowing down the  
11 strengthening economy<sup>18</sup>. In other words, the Fed is trying to head off  
12 inflation *before* it becomes a problem.

13 Since it began increasing the federal funds rate in June 2004, the Federal  
14 Reserve has stated that it would increase rates at a "measured" pace.

15 Many analysts and economists interpret this language to mean that  
16 Chairman Greenspan will be cautious in increasing interest rates too  
17 quickly in order to avoid what is considered to be one of the Fed's few  
18 blunders during his tenure – a series of increases in 1994 that caught the  
19 financial markets by surprise after a long period of low rates. The rapid

---

<sup>17</sup> As this testimony was being finalized, the changes in the federal funds rate, the federal discount rate and the prime rate, that occurred as a result of the FOMC's actions on November 10, 2004, were included in Schedule WAR-8.

<sup>18</sup> McKinnon, John D. and Greg IP, "Fed Raises Rates by a Quarter Point," The Wall Street Journal, September 22, 2004.

1 rise in rates resulted in financial turmoil, which contributed to the  
2 bankruptcy of Orange County, California and the Mexican peso crisis<sup>19</sup>.

3  
4 Q. Putting this all into perspective, how have the Fed's actions over the past  
5 four years affected benchmark rates?

6 A. Virtually all of the benchmark rates have fallen to levels not seen in over  
7 forty-five years. The Fed's actions have had the overall effect of reducing  
8 the cost of many types of business and consumer loans. Despite the  
9 recent increases in the federal funds rate, the federal discount rate (the  
10 rate charged to member banks) has fallen from 5.73 percent in 2000, to its  
11 present level of 3.00 percent (following the Fed's November 10, 2004  
12 action). Despite the recent increases, rates are still at historically low  
13 levels.

14  
15 Q. What has been the trend in other leading interest rates over the last year?

16 A. As of November 10, 2004, all of the leading interest rates have edged up.  
17 The prime rate has increased from 4.00 percent a year ago to a current  
18 level of 5.00 percent. The benchmark federal funds rate, just discussed,  
19 has increased from 1.00 percent, in October 2003, to its current level of  
20 2.00 percent. As of the Week ended October 29, 2004, the yields on all  
21 maturities of U.S. Treasury instruments, with the exception of the 10-year  
22 and 30-year instruments and 30-year zero coupon bonds, which have

---

<sup>19</sup> Associated Press (AP), "Fed begins debating interest rates" USA Today, June 29, 2004.

1       fallen from 32 to 42 basis points since October 2003, have increased over  
2       the past year. The 91-day T-bill rate, used in my CAPM analysis, has  
3       increased from 0.94 percent, in October 2003, to 1.83 percent today. The  
4       1-Year Treasury Constant Maturity rate, has also increased from 1.28  
5       percent over the past year to 2.20 percent today. Again, these levels are  
6       still low when they are compared with the historical yields displayed on  
7       Schedule WAR-8.

8  
9   Q.   How have economists and members of the investment community viewed  
10       the Fed's recent actions and the current state of the economy in general?

11   A.   The change in the Fed's language from "considerable period" to "patient"  
12       to "measured," that have been noted through the course of my testimony,  
13       has pretty much summed up the Fed's course of action during the  
14       economic recovery that is still in progress. In his October column for  
15       Wells Capital Management's Monthly Market Outlook publication, Senior  
16       Economist Gary E. Schlossberg sees the Fed's recent credit tightening  
17       action as a trend that is likely to continue barring an unraveling of the  
18       economic recovery, a major disruption in the financial markets or a  
19       renewed threat of declining prices. According to Mr. Schlossberg, the Fed  
20       appears to be determined to engineer a fundamental shift from its past  
21       policy of "aggressive accommodation" to what he considers to be a more  
22       "neutral" policy stance (determined by both the rate of inflation and an  
23       additional "premium" of possibly 1.00 percent to 1.50 percent) via a series



1 of rapid fire quarter-point increases that will result in a federal funds rate of  
2 4.00 percent to 4.50 percent by the end of 2005. Mr. Schlossberg's  
3 expectation of future incremental increases in the federal funds rate is  
4 shared by Mickey Levy, Chief Economist for Bank of America, and by  
5 Value Line analysts. In the October 1, 2004 edition of Value Line's  
6 "Selection & Opinion" publication, Value Line's analysts stated that they  
7 believed that the Fed was following a prudent course. In their opinion the  
8 Fed's interest rate cutting helped to avoid a more serious recession and  
9 the Fed's present course of action will help to insure that the current  
10 upturn in the economy is sustained while keeping inflation low and under  
11 control at the same time. Although the recent increases in the federal  
12 funds rate have been viewed as a positive development (i.e. evidence of a  
13 strengthening economy), the recent increases in crude oil prices have not.  
14 Rising crude oil prices have become a serious concern to analysts and  
15 economists because of their potential adverse impact on corporate  
16 earnings. The recent price spike of \$50 per barrel has been attributed to  
17 the war in Iraq, the recent hurricanes in the gulf coast region (which  
18 impacted production in Mexico) and an overall increase in world demand  
19 (primarily from emerging industrial powers such as China).

1 Q. How has the telecommunications segment of the U.S. economy fared  
2 recently?

3 A. In his October 1, 2004 update on the telecommunications services  
4 industry, Value Line analyst David Reimer stated that while the domestic  
5 stock market, as a whole, suffered much volatility (heightened by high fuel  
6 prices and political uncertainty) due to lingering concerns regarding the  
7 near-term prospects for the U.S. economy over the past three months, the  
8 telecommunications service industry held up well against the broader  
9 market over the same period. Noting that the major ratings agencies have  
10 become aware of improved finances within the industry, Mr. Reimer  
11 appears to be optimistic in his outlook, as evidenced by his expectation  
12 that Value Line's number of total financial strength rating upgrades in the  
13 telecommunications segment will be greater than total downgrades.

14  
15 Q. Please summarize how the economic data just presented relates to  
16 Qwest.

17 A. The current low rate of inflation translates into stable and even possibly  
18 declining prices for goods and services, which in turn means that Qwest  
19 can expect its present operating expenses to either remain stable or  
20 possibly decline in the coming years. Lower interest rates would also  
21 benefit Qwest in regard to any short or long-term borrowing needs that the  
22 Company may have. Lower interest rates, would further help to  
23 accelerate growth in new construction projects and home developments

1 (which have been on an upward trend according to data presented in  
2 Value Line) in the Company's service territory, and may result in new  
3 revenue streams to Qwest.

4  
5 Q. After weighing the economic information that you've just discussed, do you  
6 believe that the 10.20 percent to 12.80 percent cost of equity capital that  
7 you have estimated is reasonable for Qwest?

8 A. I believe that my estimate of equity costs will provide Qwest with a  
9 reasonable rate of return on the Company's invested capital when  
10 economic data on interest rates (that are still low by historical standards),  
11 continued growth in new housing construction (attributed to historically low  
12 interest rates), and the low and stable outlook for inflation are all taken into  
13 consideration. As I noted earlier, the Hope decision determined that a  
14 utility is entitled to earn a rate of return that is commensurate with the  
15 returns it would make on other investments with comparable risk. I  
16 believe that my DCF and CAPM analyses have produced such a return.  
17 The results that I have obtained are consistent with Value Line's view that,  
18 with the exception of Qwest, the RBOC's included in my proxy "offer high  
19 yields and favorable dividend growth prospects." In fact, my  
20 recommended 11.50 percent cost of common equity is the same as Value  
21 Line's forward looking long-term (i.e. 2007-2009) return on common equity  
22 expectation for the telecommunications industry.

**CAPITAL STRUCTURE**

Q. Have you reviewed Qwest's testimony regarding the Company's proposed capital structure?

A. Yes, I have.

Q. Please describe the Company's proposed capital structure.

A. The Company is proposing a capital structure comprised of approximately 24.80 percent common equity and 75.20 percent debt.

Q. What capital structure are you proposing for Qwest?

A. I have adopted the Company-proposed capital structure.

Q. How does your recommended cost of equity capital compare with the cost of equity capital proposed by the Company?

A. The 21.40 percent cost of equity capital proposed by the Company's cost of capital witness is 990 basis points higher than the 11.50 percent cost of equity capital that I am recommending.

Q. How does your recommended cost of debt compare with the cost of debt proposed by the Company?

A. I am recommending the same 7.89 percent cost of long-term debt and the same 7.24 percent cost of short-term debt that the Company has proposed. This was based on my review of Qwest's debt and lease obligations.

1 Q. How does the Company's proposed weighted cost of capital compare with  
2 your recommendation?

3 A. The Company-proposed weighted cost of capital of 11.18 percent is 245  
4 basis points higher than the 8.73 percent weighted cost of capital that I am  
5 recommending.

6  
7 Q. Is Qwest's capital structure in line with industry averages?

8 A. No. As can be seen in schedule WAR-9, Qwest's capital structure is  
9 much heavier in debt than the four telecommunications companies that I  
10 included in my DCF and CAPM proxy. The Value Line capital structures  
11 for the utilities included in my proxy averaged 29.90 percent for debt (4.00  
12 percent short-term debt + 25.90 percent long-term debt) and 70.10  
13 percent for equity (0.00 percent in preferred equity + 70.10 percent  
14 common equity). This is the primary reason why Value Line's analysts do  
15 not view Qwest as favorably as the other RBOC's that are in my sample.

16  
17 Q. Why are you recommending the Company-proposed capital structure as  
18 opposed to a hypothetical capital structure that is more in line with the  
19 capital structures of the utilities included in your sample?

20 A. First, the capital structure that Qwest is proposing actually reflects the way  
21 in which the Company's Test Year assets were financed. Second, the use  
22 of the actual capital structure benefits Qwest's regulated services  
23 ratepayers because it produces a weighted cost of capital that is lower

1       than what a hypothetical capital structure would. This is because the  
2       Company's lower 7.81 percent cost of debt is weighted more heavily than  
3       the higher cost of common equity. For example, using my recommended  
4       11.50 percent cost of common equity and 8.71 percent cost of debt, a  
5       hypothetical capital structure of 50 percent equity and 50 percent debt  
6       would result in a weighted cost of capital of 9.66 percent which is 93 basis  
7       points higher than my recommended weighted cost of 8.73 percent.

8  
9       Q. In terms of risk, how does Qwest's capital structure compare to the  
10      telecommunications utilities in your sample?

11     A. Qwest would be perceived as having more risk. This is because of the  
12      higher level of debt in the Company's capital structure. As a result of this,  
13      the Company faces additional financial risk (i.e. the risk associated with  
14      debt repayment) than do the utilities in my sample. Since financial risk  
15      (due to debt leverage) is embedded in the cost of equity capital derived for  
16      those companies through the DCF analysis, the cost of equity derived in  
17      my DCF analysis is applicable to companies that are less leveraged and,  
18      theoretically speaking, have a lower level of risk than a utility with Qwest's  
19      level of debt. In the case of a publicly-traded company, such as those  
20      included in my proxy, a company with Qwest's level of debt would be  
21      perceived as having higher financial risk and would therefore have a  
22      higher expected return on common equity.

1 Q. Have you made an adjustment to your DCF estimate based on any  
2 perceptions of financial risk?

3 A. Yes, as I stated earlier in my testimony I have increased the result of my  
4 DCF estimate from 10.20 percent to 11.50 percent. I have made this 130  
5 basis point upward adjustment to take into account the additional financial  
6 risk faced by the Company. This 130 basis point adjustment is 80 basis  
7 points higher than a previous 50 basis point increase that I made for water  
8 provider Arizona-American, which had a capital structure comprised of 60  
9 percent debt and 40 percent common equity (page 30).

10  
11 **COMMENTS ON QWEST'S COST OF EQUITY CAPITAL TESTIMONY**

12 Q. Please describe Qwest's cost of equity capital testimony.

13 A. As noted earlier in my testimony Qwest's cost of capital testimony was  
14 prepared by Mr. Peter C. Cummings. Mr. Cumming's testimony presents  
15 the results of his own DCF and CAPM analyses and offers his rationale as  
16 to why the Commission should authorize a 21.40 percent return on  
17 common equity for Qwest.

18  
19 Q. Were there any differences in the way that you conducted your DCF  
20 analysis and the way that Mr. Cummings conducted his?

21 A. Yes, Mr. Cummings conducted two separate DCF analyses. His first DCF  
22 analysis is similar to mine and, as I explained earlier in my testimony, uses  
23 a proxy of six telecommunications providers. His second DCF analysis

1 uses a proxy that is comprised of a diversified sample of publicly traded  
2 companies that are not part of the telecommunications industry.

3  
4 Q. What is the difference between your DCF results and Mr. Cummings's first  
5 DCF result?

6 A. The 10.20 percent cost of common equity derived in my DCF analysis  
7 (that uses four sample telecommunications companies) is 320 basis points  
8 higher than the 7.00 percent cost of common equity derived in Mr.  
9 Cummings's first DCF analysis.

10  
11 Q. Why is your 10.20 percent DCF result, using telecommunications  
12 providers, higher than Mr. Cummings' 7.00 percent DCF results that also  
13 use telecommunications providers?

14 A. In the dividend yield portion ( $D_1 \div P_0$ ) of the DCF formula ( $k = (D_1 \div P_0)$   
15  $+ g$ ), Mr. Cummings ignored the results of Citizens (which I did not include  
16 in my sample) and divided the projected dividends ( $D_1$ ) of the remaining  
17 five telecommunications companies in his sample by a 10-day average  
18 ( $P_0$ ) of their closing stock prices in order to arrive at a 3.50 percent figure.  
19 This 3.50 percent dividend yield figure is 19 basis points higher than the  
20 3.31 percent that I calculated by using the projected dividends of four  
21 telecommunications companies divided by a more recent 8-week average  
22 of their closing stock prices. When ALLTEL's projected dividend yield of  
23 3.1 percent is taken out of the calculation, Mr. Cumming' model produces



1 a dividend yield of 3.60 percent that is 29 basis points higher than my 3.31  
2 percent figure.

3 In the growth portion (g) of the DCF formula ( $k = (D_1 \div P_0) + g$ ), Mr.  
4 Cummings once again ignored a 7.00 percent growth projection on  
5 Citizens and used the projected growth rates (provided by Institutional  
6 Brokers Investor Service or I/B/E/S) on the remaining five  
7 telecommunications companies in his sample to arrive at a 3.46 percent  
8 growth figure. This 3.46 percent growth figure is 343 basis points lower  
9 than the more optimistic 6.89 percent growth figure that I estimated (pages  
10 21 and 22) on the four telecommunications companies in my sample.  
11 When ALLTEL's I/B/E/S projected rate of growth is removed from the  
12 calculation, Mr. Cumming' model produces a growth rate of 3.08 percent  
13 which is 381 basis points lower than my 6.89 percent figure.

14 In arriving at his final DCF estimate of 7.00 percent, Mr. Cummings  
15 rounded up the 6.96 percent sum of the aforementioned 3.50 percent  
16 dividend yield and 3.46 growth averages that were calculated in his model.  
17 When ALLTEL is removed from the DCF calculation, Mr. Cummings'  
18 model produces a 6.68 percent cost of equity capital which is 352 basis  
19 points lower than my 10.20 percent estimate.  
20  
21  
22

1 Q. You stated that Mr. Cummings used a 10-day average of closing stock  
2 prices in the "P<sub>0</sub>" component of the DCF model as opposed to a more  
3 recent 8-week average that you used. What is the difference between the  
4 two average stock prices?

5 A. When ALLTEL, which had a closing average stock price of \$49.81  
6 (according to Mr. Cummings' workpapers), is included in the calculation,  
7 Mr. Cummings' 10-day average closing stock price is \$33.03 or \$1.09  
8 higher than the more recent \$31.94 8-week average that I used in my DCF  
9 model (which excluded ALLTEL). When ALLTEL's average closing price  
10 of \$49.81 is eliminated from the calculation, Mr. Cummings 10-day  
11 average closing stock price is \$28.84 or \$3.10 less than the more recent  
12 8-week average that I used in my DCF model. Since there was only a  
13 small difference in our estimated dividends per share (\$0.07 for BLS and  
14 \$0.01 for SBC), the lower \$28.84 10-week average stock price (without  
15 ALLTEL) that would have existed when Mr. Cummings performed his DCF  
16 analysis produces a slightly higher yield of 3.50 percent than the 3.30  
17 percent dividend yield that my model produces using a more recent 8-  
18 week average of \$31.94. My comparison illustrates the fact that the stock  
19 prices for the four telecommunications companies included in both Mr.  
20 Cummings proxy and my proxy have increased in value since Mr.  
21 Cummings' testimony was filed.

1 Q. Based on the DCF comparisons that you have just presented, do you  
2 believe that your estimates for the growth component of the DCF model  
3 are too high?

4 A. No. As can be seen in Schedule WAR-6, my growth estimate is only 126  
5 basis points higher than the average of Value Line's per share projections  
6 on earnings, dividends and book value. The I/B/E/S growth estimates that  
7 Mr. Cummings used in his model (at the time that he performed his  
8 analysis) are lower than both the Value Line and Zack's projections that I  
9 relied on as a check of my estimate. If anything, the recent increased  
10 value in stock prices that I just noted tends to validate my higher  
11 expectations for growth among the four telecommunications companies  
12 included in my sample. As I pointed out earlier in my testimony, Value  
13 Line analyst David Reimer stated that the telecommunications industry  
14 held up well against the broader market during the July – September  
15 period of 2004. According to Mr. Reimer the telecommunications services  
16 industry remains in the top half of Value Line's timeliness ranking system.  
17 This outlook bodes well for Qwest in my opinion, since increased earnings  
18 could be used to retire existing debt obligations and allow the Company to  
19 achieve a capital structure that is more in line with industry averages.  
20 According to rating agency reports provided by Qwest and Value Line  
21 analyst Reimer, the Company appears to be moving in this direction  
22 already. Recent federal court decisions, which have overturned Federal  
23 Communication Commission rules requiring the RBOC's to make their

1 facilities available to CLEC's through leasing agreements, have improved  
2 Qwest's earning picture by easing competitive pressure. I would think that  
3 Qwest's recent \$250 million settlement with the SEC, over allegations that  
4 Qwest recognized nearly \$4 billion in revenue and excluded \$231 million  
5 in expenses "as part of a multi-faceted fraudulent scheme to meet  
6 optimistic and unsupportable revenue and earnings projections," will also  
7 help to ease investor uncertainties.

8  
9 Q. Please compare the results of your DCF analysis with the results of Mr.  
10 Cummings' second DCF analysis, which uses a proxy of publicly traded  
11 companies that are not part of the telecommunications industry.

12 A. Mr. Cummings' DCF model using non-telecommunications companies  
13 produced an estimate of 12.80 percent (which was a truncated average  
14 that removed the high and low estimates). Mr. Cummings' estimate was  
15 260 basis points higher than my 10.20 percent estimate that used a proxy  
16 of four telecommunications companies. Mr. Cummings' result is more in  
17 line with the results of my CAPM analysis that was calculated with an  
18 arithmetic mean.

19  
20 Q. Why did you choose not to perform a similar DCF analysis using non-  
21 telecommunications companies?

22 A. Quite simply, I believe that my sample of telecommunications companies  
23 are a better proxy than a sample of unregulated companies that are not

1 engaged in the business of providing telecommunication services.  
2 Although the companies in my sample have subsidiaries that compete in  
3 unregulated services, such as wireless communications, the same is true  
4 of Qwest, which provides wireless services through a resale agreement  
5 with Sprint.

6  
7 Q. Please compare the results of your CAPM analysis with the results of Mr.  
8 Cummings' CAPM analysis?

9 A. As in the case of his DCF analysis, Mr. Cummings performed two CAPM  
10 analyses ( $k = r_f + [\beta (r_m - r_f)]$ ) – one that uses the aforementioned proxy  
11 of six telecommunications companies, and one that uses a proxy  
12 comprised of non-telecommunications companies. Mr. Cummings' CAPM  
13 analysis, using his telecommunications proxy that included results for  
14 Citizens, produced an expected return (k) of 12.10 percent, which is 70  
15 basis points lower than my CAPM analysis using an arithmetic mean, and  
16 137 basis points higher than my CAPM analysis using a geometric mean.  
17 Mr. Cummings' CAPM analysis, using his non-telecommunications proxy,  
18 produced an expected return of 10.20 percent (again using a truncated  
19 average) which is 260 basis points lower than my CAPM analysis using an  
20 arithmetic mean, and 53 basis points lower than my CAPM analysis using  
21 a geometric mean.

1 Q. What beta coefficient ( $\beta$ ) did you use in your CAPM model and what beta  
2 coefficient did Mr. Cummings's use in his telecommunications company  
3 CAPM analysis?

4 A. I used a beta coefficient of 1.04, which was an average of the applicable  
5 betas published by Value Line. Mr. Cummings used a beta coefficient of  
6 1.01, which was derived from an average of the applicable betas  
7 published by both Value Line and Merrill Lynch.

8  
9 Q. What was the beta coefficient used in Mr. Cummings's non-  
10 telecommunications company CAPM analysis?

11 A. Mr. Cummings used a beta coefficient of 0.78, which was also derived  
12 from an average of the applicable betas published by both Value Line and  
13 Merrill Lynch.

14  
15 Q. Please compare the risk free rate of return ( $r_f$ ) proxies used in both your  
16 and Mr. Cummings CAPM analyses.

17 A. As I explained earlier in my testimony (page 25), I used a six-week  
18 average on a 91-day T-Bill rate. This resulted in a risk-free rate of return  
19 of 1.66 percent. Mr. Cummings on the other hand, used an average of 10-  
20 year U.S. Treasury bond yields, which resulted in a higher risk-free rate of  
21 return of 3.80 percent. The difference between the two average yields is  
22 214 basis points.

1 Q. What is the difference between your market risk premium ( $r_m$ ) and the  
2 market risk premium used by Mr. Cummings?

3 A. Mr. Cummings derived his market risk premium figure of 8.20 percent by  
4 averaging the arithmetic mean risk premium for market results (over the  
5 1926-2003 period) with an S&P 500 DCF equity estimate and then  
6 subtracting his risk free proxy. The 8.20 percent market risk premium used  
7 by Mr. Cummings is 248 basis points lower than my 10.68 percent market  
8 risk premium, using an arithmetic mean, and is 48 basis points lower than  
9 my 8.68 percent market risk premium, using a geometric mean.

10  
11 Q. How does Mr. Cummings arrive at his 21.40 percent cost of common  
12 equity figure after presenting the results of his DCF and CAPM analyses  
13 that range from 7.00 percent to 12.80 percent?

14 A. Mr. Cummings uses a procedure that produces an adjusted beta  
15 coefficient, or "levered beta", that is substituted into the CAPM model to  
16 produce an expected return that reflects the level of debt and equity  
17 contained in a firm's capital structure.

18  
19 Q. Please compare the levered beta used to produce the Company-proposed  
20 21.40 percent cost of common equity with the other betas used in your  
21 and Mr. Cummings' CAPM analyses.

22 A. The procedure used by Mr. Cummings (on page 36 of his direct testimony)  
23 produces a levered beta of 2.15 that is more than twice as large as the

1       beta of 1.04, which I used in my CAPM model, and the betas of 1.01 and  
2       0.78, which Mr. Cummings used in his telecommunications and non-  
3       telecommunications CAPM models respectively.

4  
5   Q.   Do you agree with Mr. Cummings' decision to rely solely on his CAPM  
6       analysis that uses a levered beta of 2.15?

7   A.   No. As I stated at the beginning of my testimony, I place more emphasis  
8       on the results of the DCF model. The DCF model uses actual closing  
9       stock prices that reflect information, such as a firm's capital structure, that  
10      is available to the investing public. In short, I believe that the theoretical  
11      2.15 beta that Mr. Cummings has calculated is not realistic when  
12      companies with similar betas are compared to Qwest.

13  
14   Q.   Are there any final remarks that you would like to make regarding your  
15       recommended cost of capital for Qwest?

16   A.   Yes. I would like to reiterate my firm belief that the telecommunications  
17       utilities that were included in my DCF and CAPM sample fit the Hope  
18       decision definition of "other investments with comparable risk." I further  
19       believe that the telecommunications companies included in my sample  
20       closely resemble Qwest in terms of both an operating and risk standpoint.



1 Q. Does your silence on any of the issues, matters or findings addressed in  
2 the testimony of Mr. Cummings constitute your acceptance of his positions  
3 on such issues, matters or findings?

4 A. No, it does not.

5

6 Q. Does this conclude your testimony on Qwest?

7 A. Yes, it does.

**Qualifications of William A. Rigsby**

**EDUCATION:**

University of Phoenix  
Master of Business Administration, Emphasis in Accounting, 1993

Arizona State University  
College of Business  
Bachelor of Science, Finance, 1990

Mesa Community College  
Associate of Applied Science, Banking and Finance, 1986

Michigan State University  
Institute of Public Utilities  
N.A.R.U.C. Annual Regulatory Studies Program, 1997 & 1999

Florida State University  
Center for Professional Development & Public Service  
N.A.R.U.C. Annual Western Utility Rate School, 1996

**EXPERIENCE:**

Public Utilities Analyst V  
Residential Utility Consumer Office  
Phoenix, Arizona  
April 2001 – Present

Senior Rate Analyst  
Accounting & Rates - Financial Analysis Unit  
Arizona Corporation Commission, Utilities Division  
Phoenix, Arizona  
July 1999 – April 2001

Senior Rate Analyst  
Residential Utility Consumer Office  
Phoenix, Arizona  
December 1997 – July 1999

Utilities Auditor II and III  
Accounting & Rates – Revenue Requirements Analysis Unit  
Arizona Corporation Commission, Utilities Division  
Phoenix, Arizona  
October 1994 – November 1997

Revenue Auditor II  
Arizona Department of Revenue  
Corporate Income Tax Audit Unit  
Phoenix, Arizona  
November 1993 – October 1994

Tax Examiner Technician I  
Arizona Department of Revenue  
Transaction Privilege Tax Audit Unit  
Phoenix, Arizona  
July 1991 – November 1993

**RESUME OF RATE CASE AND REGULATORY PARTICIPATION**

<b><u>Utility Company</u></b>	<b><u>Docket No.</u></b>	<b><u>Type of Proceeding</u></b>
ICR Water Users Association	U-2824-94-389	Original CC&N
Rincon Water Company	U-1723-95-122	Rate Increase
Ash Fork Development Association, Inc.	E-1004-95-124	Rate Increase
Parker Lakeview Estates Homeowners Association, Inc.	U-1853-95-328	Rate Increase
Mirabell Water Company, Inc.	U-2368-95-449	Rate Increase
Bonita Creek Land and Homeowner's Association	U-2195-95-494	Rate Increase
Pineview Land & Water Company	U-1676-96-161	Rate Increase
Pineview Land & Water Company	U-1676-96-352	Financing
Montezuma Estates Property Owners Association	U-2064-96-465	Rate Increase
Houghland Water Company	U-2338-96-603 et al	Rate Increase
Sunrise Vistas Utilities Company – Water Division	U-2625-97-074	Rate Increase
Sunrise Vistas Utilities Company – Sewer Division	U-2625-97-075	Rate Increase
Holiday Enterprises, Inc. dba Holiday Water Company	U-1896-97-302	Rate Increase
Gardener Water Company	U-2373-97-499	Rate Increase
Cienega Water Company	W-2034-97-473	Rate Increase
Rincon Water Company	W-1723-97-414	Financing/Auth. To Issue Stock
Vail Water Company	W-01651A-97-0539 et al	Rate Increase
Bermuda Water Company, Inc.	W-01812A-98-0390	Rate Increase
Bella Vista Water Company	W-02465A-98-0458	Rate Increase
Pima Utility Company	SW-02199A-98-0578	Rate Increase

**RESUME OF RATE CASE AND REGULATORY PARTICIPATION (Cont.)**

<b><u>Utility Company</u></b>	<b><u>Docket No.</u></b>	<b><u>Type of Proceeding</u></b>
Pineview Water Company	W-01676A-99-0261	WIFA Financing
I.M. Water Company, Inc.	W-02191A-99-0415	Financing
Marana Water Service, Inc.	W-01493A-99-0398	WIFA Financing
Tonto Hills Utility Company	W-02483A-99-0558	WIFA Financing
New Life Trust, Inc. dba Dateland Utilities	W-03537A-99-0530	Financing
GTE California, Inc.	T-01954B-99-0511	Sale of Assets
Citizens Utilities Rural Company, Inc.	T-01846B-99-0511	Sale of Assets
MCO Properties, Inc.	W-02113A-00-0233	Reorganization
American States Water Company	W-02113A-00-0233	Reorganization
Arizona American Water Company	W-01303A-00-0327	Financing
Arizona Electric Power Cooperative	E-01773A-00-0227	Financing
360networks (USA) Inc.	T-03777A-00-0575	Financing
Beardsley Water Company, Inc.	W-02074A-00-0482	WIFA Financing
Mirabell Water Company	W-02368A-00-0461	WIFA Financing
Rio Verde Utilities, Inc.	WS-02156A-00-0321 et al	Rate Increase/ Financing
Arizona Water Company	W-01445A-00-0749	Financing
Loma Linda Estates, Inc.	W-02211A-00-0975	Rate Increase
Arizona Water Company	W-01445A-00-0962	Rate Increase
Mountain Pass Utility Company	SW-03841A-01-0166	Financing
Picacho Sewer Company	SW-03709A-01-0165	Financing
Picacho Water Company	W-03528A-01-0169	Financing
Ridgeview Utility Company	W-03861A-01-0167	Financing
Green Valley Water Company	W-02025A-01-0559	Rate Increase
Bella Vista Water Company	W-02465A-01-0776	Rate Increase
Arizona Water Company	W-01445A-02-0619	Rate Increase

RESUME OF RATE CASE AND REGULATORY PARTICIPATION (Cont.)

<u>Utility Company</u>	<u>Docket No.</u>	<u>Type of Proceeding</u>
Arizona-American Water Company	W-01303A-02-0867 et al.	Rate Increase
Arizona Public Service Company	E-01345A-03-0437	Rate Increase
Rio Rico Utilities, Inc.	WS-02676A-03-0434	Rate Increase

QWEST CORPORATION  
DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672

TABLE OF CONTENTS TO SCHEDULES WAR

<u>SCHEDULE #</u>	
WAR - 1	COST OF CAPITAL SUMMARY (IN \$000's)
WAR - 2	DCF COST OF EQUITY CAPITAL
WAR - 3	DIVIDEND YIELD CALCULATION
WAR - 4	DIVIDEND GROWTH RATE CALCULATION
WAR - 5	DIVIDEND GROWTH COMPONENTS
WAR - 6	GROWTH RATE COMPARISON
WAR - 7	CAPM COST OF EQUITY CAPITAL
WAR - 8	ECONOMIC INDICATORS - 1990 TO PRESENT
WAR - 9	CAPITAL STRUCTURES OF PUBLICLY TRADED TELECOMMUNICATIONS COMPANIES (IN \$000's)

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
COST OF CAPITAL SUMMARY (IN \$000's)

LINE NO.	DESCRIPTION	(A) CAPITALIZATION PER COMPANY	(B) RUCO ADJUSTMENTS	(C) RUCO ADJUSTED CAPITALIZATION	(D) CAPITAL RATIO	(E) COST	(F) WEIGHTED COST
1	COMMON EQUITY	\$ 410,503	\$ -	\$ 410,503	24.83%	11.50%	2.86%
2	LONG-TERM DEBT	1,098,801	-	1,098,801	66.45%	7.89%	5.24%
3	SHORT-TERM DEBT	144,202	-	144,202	8.72%	7.24%	0.63%
4	TOTAL CAPITALIZATION	\$ 1,653,506	\$ -	\$ 1,653,506	100.00%		
5	COST OF CAPITAL						8.73%

REFERENCES:  
COLUMN (A): COMPANY SCHEDULE D-1  
COLUMN (B): TESTIMONY, WAR  
COLUMN (C): COLUMN (A) + COLUMN (B)  
COLUMN (D): COLUMN (C) + COLUMN (C), LINE 4  
COLUMN (E): TESTIMONY, WAR  
COLUMN (F): COLUMN (D) x COLUMN (E)

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
DCF COST OF EQUITY CAPITAL

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE WAR - 2

LINE NO.	STOCK SYMBOL	COMPANY	(A) DIVIDEND YIELD	+	(B) GROWTH RATE (g)	=	(C) DCF COST OF EQUITY CAPITAL
1	BLS	BELLSOUTH CORP.	3.93%	+	8.29%	=	12.22%
2	CTL	CENTURYTEL, INC.	0.69%	+	7.11%	=	7.79%
3	SBC	SBC COMMUNICATIONS, INC.	4.77%	+	4.06%	=	8.83%
4	VZ	VERIZON COMMUNICATIONS	3.83%	+	8.11%	=	11.94%
5		TELECOMMUNICATIONS COMPANY AVERAGE					10.20%

REFERENCES:

COLUMN (A): SCHEDULE WAR - 3, COLUMN C  
COLUMN (B): SCHEDULE WAR - 4, PAGE 1, COLUMN C  
COLUMN (C): COLUMN (A) + COLUMN (B)



QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
DIVIDEND YIELD CALCULATION

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE WAR - 3

LINE NO.	STOCK SYMBOL	COMPANY	(A) ESTIMATED DIVIDEND (PER SHARE)	+	(B) AVERAGE STOCK PRICE (PER SHARE)	=	(C) DIVIDEND YIELD
1	BLS	BELLSOUTH CORP.	\$1.08	+	\$27.46	=	3.93%
2	CTL	CENTURYTEL, INC.	0.23	+	33.79	=	0.69%
3	SBC	SBC COMMUNICATIONS, INC.	1.25	+	26.26	=	4.77%
4	VZ	VERIZON COMMUNICATIONS	1.54	+	40.24	=	3.83%
5		TELECOMMUNICATIONS COMPANY AVERAGE					3.30%

REFERENCES:

COLUMN (A): ESTIMATED 12 MONTH DIVIDEND REPORTED IN VALUE LINE INVESTMENT

SURVEY - SUMMARY AND INDEX DATED 10/01/04.

COLUMN (B): EIGHT WEEK AVERAGE OF CLOSING PRICES FROM 09/03/04 TO 10/29/04

STOCK QUOTES OBTAINED THROUGH BIG CHARTS WEB SITE -

HISTORICAL QUOTES (www.bigcharts.com).

COLUMN (C): COLUMN (A) ÷ COLUMN (B)

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
DIVIDEND GROWTH RATE CALCULATION

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE WAR - 4  
PAGE 1 OF 2

LINE NO.	STOCK SYMBOL	COMPANY	(A) INTERNAL GROWTH (br)	+	(B) EXTERNAL GROWTH (sv)	=	(C) DIVIDEND GROWTH (g)
1	BLS	BELLSOUTH CORP.	8.00%	+	0.29%	=	8.29%
2	CTL	CENTURYTEL, INC.	8.00%	+	-0.89%	=	7.11%
3	SBC	SBC COMMUNICATIONS, INC.	4.00%	+	0.06%	=	4.06%
4	VZ	VERIZON COMMUNICATIONS	8.00%	+	0.11%	=	8.11%
5		TELECOMMUNICATIONS COMPANY AVERAGE					6.89%

REFERENCES:  
COLUMN (A): TESTIMONY, WAR  
COLUMN (B): SCHEDULE WAR - 4, PAGE 2, COLUMN C  
COLUMN (C): COLUMN (A) + COLUMN (B)

QWEST CORPORATION  
 TEST YEAR ENDED DECEMBER 31, 2003  
 DIVIDEND GROWTH RATE CALCULATION

DOCKET NO. T-0105B-03-0454  
 DOCKET NO. T-00000D-00-0672  
 SCHEDULE WAR - 4  
 PAGE 2 OF 2

LINE NO.	STOCK SYMBOL	COMPANY	(A) SHARE GROWTH	(B) $\frac{\{ [ ( ( M + B ) + 1 ) \div 2 ] - 1 \}}{}$	(C) EXTERNAL GROWTH (sv)
1	BLS	BELLSOUTH CORP.	0.50%	$\frac{\{ [ ( ( 2.16 ) + 1 ) \div 2 ] - 1 \}}{}$	0.29%
2	CTL	CENTURYTEL, INC.	-5.00%	$\frac{\{ [ ( ( 1.36 ) + 1 ) \div 2 ] - 1 \}}{}$	-0.89%
3	SBC	SBC COMMUNICATIONS, INC.	0.10%	$\frac{\{ [ ( ( 2.22 ) + 1 ) \div 2 ] - 1 \}}{}$	0.06%
4	VZ	VERIZON COMMUNICATIONS	0.10%	$\frac{\{ [ ( ( 3.16 ) + 1 ) \div 2 ] - 1 \}}{}$	0.11%

REFERENCES:

COLUMN (A): TESTIMONY, WAR  
 COLUMN (B): VALUE LINE INVESTMENT SURVEY, 10/01/04  
 COLUMN (C): COLUMN (A) x COLUMN (B)

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
DIVIDEND GROWTH COMPONENTS

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE WAR - 5

LINE NO.	STOCK SYMBOL	COMPANY	OPERATING PERIOD	(A) RETENTION RATIO (b)	(B) RETURN ON BOOK EQUITY (r)	(C) DIVIDEND GROWTH (g)	(D) BOOK VALUE (\$/SHARE)	(E) SHARES OUTST. (MILLIONS)	(F) SHARE GROWTH
1	BLS	BELLSOUTH CORP.	1999	0.6162	25.60%	15.77%	7.87	1,883.00	
2			2000	0.6514	24.40%	15.89%	9.03	1,872.50	
3			2001	0.6381	21.30%	13.59%	9.90	1,878.30	
4			2002	0.3009	12.00%	3.61%	9.51	1,860.00	
5			2003	0.5556	19.50%	10.83%	10.77	1,830.00	
6			AVG. GROWTH 1999 - 2003			11.94%	6.00%		-0.71%
7			2004	0.4564	15.50%	7.07%		1,830.00	0.00%
8			2005	0.4300	15.00%	6.45%		1,835.00	0.14%
9			2007-09	0.4720	16.00%	7.55%		1,850.00	0.22%
10									
11	CTL	CENTURYTEL, INC.	1999	0.8909	12.60%	11.23%	13.15	139.95	
12			2000	0.8774	10.80%	9.48%	14.39	140.67	
13			2001	0.8571	8.50%	7.29%	16.49	141.23	
14			2002	0.9075	10.50%	9.53%	21.55	142.96	
15			2003	0.9079	10.00%	9.08%	24.04	144.36	
16			AVG. GROWTH 1999 - 2003			9.32%	17.00%		0.78%
17			2004	0.9042	10.00%	9.04%		130.00	-9.95%
18			2005	0.8720	9.00%	7.85%		130.00	-5.10%
19			2007-09	0.8476	9.50%	8.05%		115.00	-4.45%
20									
21	SBC	SBC COMMUNICATIONS, INC.	1999	0.5488	27.80%	15.26%	7.87	3,395.40	
22			2000	0.5531	25.40%	14.05%	9.00	3,386.00	
23			2001	0.5660	24.50%	13.87%	9.69	3,354.20	
24			2002	0.5046	21.70%	10.95%	10.01	3,317.60	
25			2003	0.0987	13.20%	1.30%	11.57	3,305.20	
26			AVG. GROWTH 1999 - 2003			11.09%	12.00%		-0.67%
27			2004	0.1935	13.00%	2.52%		3,315.00	0.30%
28			2005	0.1875	13.00%	2.44%		3,315.00	0.15%
29			2007-09	0.2632	14.00%	3.68%		3,315.00	0.06%
30									
31	VZ	VERIZON COMMUNICATIONS	1999	0.4884	29.10%	14.21%	10.24	1,550.70	
32			2000	0.4726	23.40%	11.06%	12.79	2,703.60	
33			2001	0.4867	25.80%	12.56%	11.98	2,717.20	
34			2002	0.4951	25.60%	12.67%	11.88	2,745.80	
35			2003	0.4122	21.80%	8.99%	12.08	2,769.40	
36			AVG. GROWTH 1999 - 2003			11.90%	7.50%		15.60%
37			2004	0.3840	16.00%	6.14%		2,785.00	0.56%
38			2005	0.4296	17.00%	7.30%		2,780.00	0.19%
39			2007-09	0.4839	16.50%	7.98%		2,770.00	0.00%

REFERENCES:

COLUMNS (A) & (B): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04

COLUMN (C): COLUMN (A) x COLUMN (B)

COLUMN (D): LINES 6, 16, 26 & 36, SIMPLE AVERAGE GROWTH, 1998 - 2002

COLUMN (D): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04

COLUMN (D): LINES 6, 16, 26 & 36, COMPOUND GROWTH RATE

COLUMN (E): VALUE LINE INVESTMENT SURVEY

COLUMN (F): COMPOUND GROWTH RATES OF DATES SHOWN

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
GROWTH RATE COMPARISON

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE WAR - 6

LINE NO.	STOCK SYMBOL	(A) (br.) + (sv.)		(B) ZACKS EPS		(C) VALUE LINE PROJECTED		(D) VALUE LINE HISTORIC		(E) VALUE LINE & ZACKS AVGS.		(F) 5 - YEAR COMPOUND HISTORY	
		EPS	BVPS	EPS	BVPS	EPS	BVPS	EPS	BVPS	EPS	BVPS	DPS	BVPS
1	BLS	8.29%	5.50%	6.00%	7.50%	8.50%	7.50%	4.00%	6.00%	5.71%	6.00%	4.89%	8.16%
2	CTL	7.11%	4.31%	7.50%	9.00%	15.00%	9.00%	12.00%	17.00%	9.97%	17.00%	5.14%	16.28%
3	SBC	4.06%	4.32%	-1.00%	4.50%	3.50%	4.50%	1.50%	12.00%	4.26%	12.00%	9.02%	10.11%
4	VZ	8.11%	5.23%	1.00%	5.50%	0.50%	5.50%	4.00%	7.50%	3.46%	7.50%	0.00%	4.22%
5				3.38%	6.63%	6.88%	6.63%	5.38%	10.63%		10.63%	-0.22%	9.69%
6	AVERAGES	6.89%	4.84%			5.63%		6.42%		5.85%		4.74%	

REFERENCES:

COLUMN (A): SCHEDULE WAR - 4, PAGE 1, COLUMN C  
COLUMN (B): ZACKS INVESTMENT RESEARCH (www.zacks.com)  
COLUMN (C): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04  
COLUMN (D): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04  
COLUMN (E): SIMPLE AVERAGE OF COLUMNS (B) THRU (D) LINES 1, 3, 5 AND 7  
COLUMN (F): 5-YEAR ANNUAL GROWTH RATE CALCULATED WITH DATA COMPILED FROM  
- VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04

BASED ON A GEOMETRIC MEAN:

LINE NO.	STOCK SYMBOL	(A)					(B)	
		k	=	r <sub>f</sub>	+	[ β x ( r <sub>m</sub> - r <sub>f</sub> ) ]	=	EXPECTED RETURN
1	BLS	k	=	1.72%	[	1.00 x ( 10.40% - 1.72% ) ]	=	10.40%
2	CTL	k	=	1.72%	[	1.10 x ( 10.40% - 1.72% ) ]	=	11.27%
3	SBC	k	=	1.72%	[	1.05 x ( 10.40% - 1.72% ) ]	=	10.83%
3	VZ	k	=	1.72%	[	1.00 x ( 10.40% - 1.72% ) ]	=	10.40%
5	AVERAGE					1.04		10.73%

REFERENCES:

COLUMN (A): GENERAL CAPITAL ASSET PRICING MODEL (CAPM) FORMULA

$$k = r_f + [ \beta (r_m - r_f) ]$$

WHERE:

k = THE EXPECTED RETURN ON A GIVEN SECURITY

r<sub>f</sub> = RATE OF RETURN ON A RISK FREE ASSET PROXY (a)

β = THE BETA COEFFICIENT OF A GIVEN SECURITY

r<sub>m</sub> = PROXY FOR THE MARKET RATE OF RETURN (b)

COLUMN (B): EXPECTED RATE OF RETURN USING THE CAPM FORMULA

NOTES

(a) A 6-WEEK AVERAGE OF THE 91-DAY T-BILL RATES THAT APPEARED IN VALUE LINE INVESTMENT SURVEY'S "SELECTION & OPINIONS" PUBLICATION FROM 09/24/04 THROUGH 10/29/04 WAS USED AS A RISK FREE RATE OF RETURN.

(b) THE MARKET RATE PROXY USED WAS THE GEOMETRIC MEAN FOR S&P 500 RETURNS OVER THE 1926 - 2003 PERIOD. THE DATA WAS OBTAINED FROM IBBOTSON ASSOCIATES' STOCKS, BONDS, BILLS AND INFLATION: 2004 YEARBOOK.

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
CAPM COST OF EQUITY CAPITAL

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE WAR - 7  
PAGE 2 OF 2

BASED ON AN ARITHMETIC MEAN:

LINE NO.	STOCK SYMBOL	(A)					(B)	
		k	=	r <sub>f</sub>	+	[ β x ( r <sub>m</sub> - r <sub>f</sub> ) ]	=	EXPECTED RETURN
1	BLS	k	=	1.72%	+	[ 1.00 x ( 12.40% - 1.72% ) ]	=	12.40%
2	CTL	k	=	1.72%	+	[ 1.10 x ( 12.40% - 1.72% ) ]	=	13.47%
3	SBC	k	=	1.72%	+	[ 1.05 x ( 12.40% - 1.72% ) ]	=	12.93%
4	VZ	k	=	1.72%	+	[ 1.00 x ( 12.40% - 1.72% ) ]	=	12.40%
5	AVERAGE					1.04		12.80%

REFERENCES:

COLUMN (A): GENERAL CAPITAL ASSET PRICING MODEL (CAPM) FORMULA

$$k = r_f + [ \beta (r_m - r_f) ]$$

WHERE:

k = THE EXPECTED RETURN ON A GIVEN SECURITY

r<sub>f</sub> = RATE OF RETURN ON A RISK FREE ASSET PROXY (a)

β = THE BETA COEFFICIENT OF A GIVEN SECURITY

r<sub>m</sub> = PROXY FOR THE MARKET RATE OF RETURN (b)

COLUMN (B): EXPECTED RATE OF RETURN USING THE CAPM FORMULA

NOTES

(a) A 6-WEEK AVERAGE OF THE 91-DAY T-BILL RATES THAT APPEARED IN VALUE LINE INVESTMENT SURVEY'S "SELECTION & OPINIONS" PUBLICATION FROM 09/24/04 THROUGH 10/29/04 WAS USED AS A RISK FREE RATE OF RETURN.

(b) THE MARKET RATE PROXY USED WAS THE ARITHMETIC MEAN FOR S&P 500 RETURNS OVER THE 1926 - 2003 PERIOD. THE DATA WAS OBTAINED FROM IBBOTSON ASSOCIATES' STOCKS, BONDS, BILLS AND INFLATION: 2004 YEARBOOK.

QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
ECONOMIC INDICATORS - 1990 TO PRESENT

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE WAR - 8

LINE NO.	YEAR	(A) CHANGE IN CPI	(B) CHANGE IN GDP (1996 \$)	(C) PRIME RATE	(D) FED. DISC. RATE	(E) FED. FUNDS RATE	(F) 91-DAY T-BILLS	(G) 30-YR T-BONDS	(H) A-RATED UTIL. BOND YIELD	(I) Baa-RATED UTIL. BOND YIELD
1	1990	5.40%	1.90%	10.01%	6.98%	8.10%	7.49%	8.61%	9.86%	10.06%
2	1991	4.21%	-0.20%	8.46%	5.45%	5.69%	5.38%	8.14%	9.36%	9.55%
3	1992	3.01%	3.30%	6.25%	3.25%	3.52%	3.43%	7.67%	8.69%	8.86%
4	1993	2.99%	2.70%	6.00%	3.00%	3.02%	3.00%	6.60%	7.59%	7.91%
5	1994	2.56%	4.00%	7.14%	3.60%	4.20%	4.25%	7.37%	8.31%	8.63%
6	1995	2.83%	2.50%	8.83%	5.21%	5.84%	5.49%	6.88%	7.89%	8.29%
7	1996	2.95%	3.70%	8.27%	5.02%	5.30%	5.01%	6.70%	7.75%	8.17%
8	1997	1.70%	4.50%	8.44%	5.00%	5.46%	5.06%	6.61%	7.60%	8.12%
9	1998	1.60%	4.20%	8.35%	4.92%	5.35%	4.78%	5.58%	7.04%	7.27%
10	1999	2.70%	4.50%	7.99%	4.62%	4.97%	4.64%	5.86%	7.62%	7.88%
11	2000	3.40%	3.70%	9.23%	5.73%	6.24%	5.82%	5.94%	8.24%	8.36%
12	2001	1.60%	0.80%	6.92%	3.41%	3.88%	3.38%	5.95%	7.59%	8.02%
13	2002	2.40%	1.90%	4.67%	1.17%	1.66%	1.60%	5.38%	7.41%	7.98%
14	2003	1.90%	3.00%	0.00%	0.00%	0.00%	0.00%	4.92%	6.18%	6.64%
15	CURRENT	3.50%	3.70%	5.00%	3.00%	2.00%	1.83%	4.77%	5.51%	5.92%

REFERENCES:

COLUMN (A): 1990 - CURRENT, U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS WEB SITE  
COLUMN (B): 1990 - CURRENT, U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS WEB SITE  
COLUMN (C) THROUGH (G): 1990 - 2003, FEDERAL RESERVE BANK OF ST. LOUIS WEB SITE  
COLUMN (C) THROUGH (E): CURRENT, TESTIMONY, WAR  
COLUMN (F) THROUGH (G): CURRENT, THE VALUE LINE INVESTMENT SURVEY, DATED 10/29/04  
COLUMN (H) THROUGH (I): 1990 - 2000, MOODY'S PUBLIC UTILITY REPORTS  
COLUMN (G) THROUGH (I): 2001, MORGENTHAU PUBLIC UTILITY MANUAL  
COLUMN (G) THROUGH (I): 2003, ANNUAL AVERAGE OF WEEKLY RESULTS PUBLISHED IN THE VALUE LINE INVESTMENT SURVEY  
COLUMN (C) THROUGH (I): CURRENT, THE VALUE LINE INVESTMENT SURVEY, DATED 10/29/04



QWEST CORPORATION  
TEST YEAR ENDED DECEMBER 31, 2003  
CAPITAL STRUCTURES OF PUBLICLY TRADED TELECOMMUNICATIONS COMPANIES (IN \$000's)

DOCKET NO. T-0105B-03-0454  
DOCKET NO. T-00000D-00-0672  
SCHEDULE WAR - 9

LINE NO.	BLS	PCT.	CTL	PCT.	SBC	PCT.	VZ	PCT.	AVERAGE	PCT.
1	SHORT-TERM DEBT	\$ 3,262,000	6.5%	\$ 72,000	1.6%	\$ 2,460,000	\$ 4,439,000	4.0%	\$ 3,411,000	4.0%
2	LONG-TERM DEBT *	10,341,000	20.6%	2,884,000	64.1%	15,162,000	37,449,000	33.4%	21,945,333	25.9%
3	PREFERRED STOCK	-	0.0%	8,000	0.2%	-	-	0.0%	2,667	0.0%
4	COMMON EQUITY	36,697,000	73.0%	1,536,000	34.1%	69,678,000	70,112,000	62.6%	59,341,000	70.1%
5	TOTALS	\$ 50,300,000	100%	\$ 4,500,000	100%	\$ 87,300,000	\$ 112,000,000	100%	\$ 84,700,000	100%

NOTE:  
\* INCLUDES CURRENT PORTION OF LONG-TERM DEBT

REFERENCE:  
THE VALUE LINE INVESTMENT SURVEY, DATED 10/01/04